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STRUCTURE FILE UPDATES: 15 NOV 2009 HIGHEST RN 1192409-16-7  
DICTIONARY FILE UPDATES: 15 NOV 2009 HIGHEST RN 1192409-16-7

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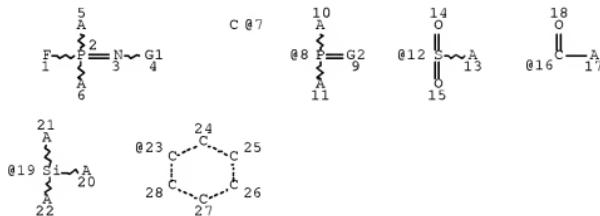
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REGISTRY includes numerically searchable data for experimental and  
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experimental property data in the original document. For information  
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=> d que stat 124  
L8 SCR 2043 OR 2049  
L20 STR



VAR G1=8/12/16/19/23  
VAR G2=0/S/1/SI/N/P  
NODE ATTRIBUTES:  
NSPEC IS RC AT 7  
NSPEC IS RC AT 10  
NSPEC IS RC AT 11  
NSPEC IS RC AT 13  
NSPEC IS RC AT 17  
NSPEC IS RC AT 20  
NSPEC IS RC AT 21  
NSPEC IS RC AT 22  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES: 22

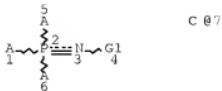
November 16, 2009

10/540,558

2

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 28

STEREO ATTRIBUTES: NONE  
L21 STR



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VAR G1=7/SI/N/P/O/S
NODE ATTRIBUTES:
NSPEC   IS RC      AT   1
NSPEC   IS RC      AT   5
NSPEC   IS RC      AT   6
NSPEC   IS RC      AT   7
DEFAULT MLEVEL IS ATOM
DEFAULT ELEVEL IS LIMITED

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GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE  
L22 93768 SEA FILE=REGISTRY SSS FUL L21  
L24 141 SEA FILE=REGISTRY SUB=L22 SSS FUL L20 NOT L8

100.0% PROCESSED      265 ITERATIONS      141 ANSWERS  
SEARCH TIME: 00.00.01

=> d his

(FILE 'HOME' ENTERED AT 17:52:12 ON 16 NOV 2009)

FILE 'REGISTRY' ENTERED AT 17:52:41 ON 16 NOV 2009  
ACT WEI558S1/A

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L1           STR
L2   ( 93768) SEA FILE=REGISTRY SSS FUL L1
L3           STR
L4           SCR 2043 OR 2049
L5   200 SEA FILE=REGISTRY SSS FUL L1 NOT L4
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3.000-14055000 (3)

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L6          STR  
L7  (  93768)SEA FILE=REGISTRY SSS FUL L6  
L8          SCR 2043 OR 2049  
L9          STR  
L10         186 SEA FILE=REGISTRY SUB=L7 SSS FUL L9 NOT L8  
  
L11         36 S L5 NOT L10
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L12 58 S L10

L13           32 S L11  
L14           84 S L12 OR L13  
L15           QUE ELECTROLY?  
L16           QUE BATTERY  
L17           10 S L14 AND L15-16  
L18           74 S L14 NOT L17  
L19           73 S L18 AND (PY<=2003 OR PRY<=2003 OR AY<=2003)

FILE 'LREGISTRY' ENTERED AT 17:58:33 ON 16 NOV 2009  
L20           STR L9

FILE 'REGISTRY' ENTERED AT 18:00:10 ON 16 NOV 2009  
ACT WEI558/A  
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L21           STR  
L22           93768 SEA FILE=REGISTRY SSS FUL L21  
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L23           9 S L20 NOT L8 SSS SAM SUB=L22  
L24           141 S L20 NOT L8 SSS FUL SUB=L22

FILE 'HCAPLUS' ENTERED AT 18:02:13 ON 16 NOV 2009  
L25           51 S L24  
L26           42 S L19 AND L25

=> fil hcap  
FILE 'HCAPLUS' ENTERED AT 18:05:29 ON 16 NOV 2009  
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FILE COVERS 1907 - 16 Nov 2009 VOL 151 ISS 21  
FILE LAST UPDATED: 15 Nov 2009 (20091115/ED)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2009  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2009

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2009.

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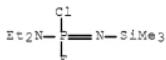
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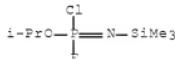
offer appear in NEWS 10.

=&gt; d ibib abs hitstr hitind 126 1-42

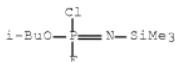
L26 ANSWER 1 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1996:609556 HCPLUS Full-text  
 DOCUMENT NUMBER: 126:18954  
 ORIGINAL REFERENCE NO.: 126:3937a,3940a  
 TITLE: Synthesis of N-trimethylsilyl  
           chloro(fluoro)imidophosphates  
 AUTHOR(S): Zavorin, S. I.; Lermontov, S. A.; Martynov, I.  
           V.  
 CORPORATE SOURCE: Institut Fiziologicheski Aktivnykh Veshchestv,  
                   Chernogolovka, 142432, Russia  
 SOURCE: Izvestiya Akademii Nauk, Seriya Khimicheskaya (1996), (5), 1295-1296  
 CODEN: IASKEA  
 PUBLISHER: Institut Organicheskoi Khimii im. N. D.  
                   Zelinskogo Rossiiskoi Akademii Nauk  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 OTHER SOURCE(S): CASREACT 126:18954  
 AB Treating RP(F)N(SiMe<sub>3</sub>)<sub>2</sub> (R = Et<sub>2</sub>N, Me<sub>2</sub>CHO, Me<sub>2</sub>CHCH<sub>2</sub>O) with CCl<sub>3</sub>CN or CCl<sub>3</sub>CO<sub>2</sub>Et  
       in Et<sub>2</sub>O gave 20-85% RP(F)(Cl):NSiMe<sub>3</sub>.  
 IT 184352-03-2P 184352-05-4P  
 184352-07-6P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
       (preparation of trimethylsilyl chloro(fluoro)imidophosphates by  
       oxidative chlorination of bis(trimethylsilyl)  
       fluoroamidophosphites)  
 RN 184352-03-2 HCPLUS  
 CN Phosphorimidimidic chloride fluoride,  
    N,N-diethyl-N'-(trimethylsilyl)- (9CI) (CA INDEX NAME)



RN 184352-05-4 HCPLUS  
 CN Phosphorochloridofluoridimidic acid, (trimethylsilyl)-,  
   1-methylethyl ester (9CI) (CA INDEX NAME)



RN 184352-07-6 HCPLUS  
 CN Phosphorochloridofluoridimidic acid, (trimethylsilyl)-,  
   2-methylpropyl ester (9CI) (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 184352-03-2P 184352-05-4P

184352-07-6P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of trimethylsilyl chloro(fluoro)imidophosphates by  
oxidative chlorination of bis(trimethylsilyl)  
fluoroamidophosphites)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS  
RECORD (1 CITINGS)

L26 ANSWER 2 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:575453 HCPLUS Full-text

DOCUMENT NUMBER: 123:169731

ORIGINAL REFERENCE NO.: 123:30315a,30318a

TITLE: Fluoridolysis of N-phosphoryl phosphazenes

AUTHOR(S): Riesel, L.; Loewe, C.; Pauli, J.

CORPORATE SOURCE: Fachber. Chem., Humboldt-Univ., Berlin, Germany

SOURCE: Zeitschrift fuer Anorganische und Allgemeine

Chemie (1995), 621(5), 865-70

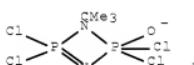
CODEN: ZAACAB; ISSN: 0044-2313

PUBLISHER: Barth

DOCUMENT TYPE: Journal

LANGUAGE: German

GI



AB In the reaction of the N-phosphoryl phosphazenes X3P:NP(Y)X<sub>2</sub> (X = Cl, PhO, Et<sub>2</sub>N, CF<sub>3</sub>CF<sub>2</sub>CH<sub>2</sub>O, PrS, Ph; Y = O, S) with Et<sub>3</sub>N-n-HF (n ≈ 3 or 0.6) fluoro derivs. of N-phosphoryl phosphazenes as well as N-phosphorylated imidotetrafluorophosphates [F<sub>4</sub>P:NP(Y)Cl<sub>2</sub>]<sup>-</sup> (Y = O, S), and imidopentafluorophosphates, [F<sub>5</sub>PNP(Y)X<sub>2</sub>]<sup>2-</sup> or [F<sub>5</sub>PNHP(O)X<sub>2</sub>]<sup>-</sup>, are formed. T-BuNHPCl<sub>2</sub>:NPOC<sub>12</sub> reacts in acetonitrile with Et<sub>3</sub>N or i-Pr<sub>2</sub>EtN to form a product, representing probably the diazadiphosphetine I. T-BuNHPCl<sub>2</sub> = N-POC<sub>12</sub> reacts in acetonitrile with Et<sub>3</sub>N or i-Pr<sub>2</sub>EtN to form a product, representing probably the diazadiphosphetine [t-BuN-PCl<sub>2</sub> = N-P(O-)Cl<sub>2</sub>]<sup>-</sup> (5b).

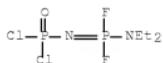
IT 80156-08-7P 166832-15-1P

166832-16-2P 166832-19-5P 166832-27-5P

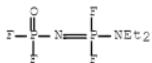
RL: SPN (Synthetic preparation); PREP (Preparation)  
(fluoridolysis of N-phosphoryl phosphazenes)

RN 80156-08-7 HCPLUS

CN Phosphoramidic dichloride, [(diethylamino)difluorophosphoranylidene]<sup>-</sup> (9CI) (CA INDEX NAME)



RN 166832-15-1 HCPLUS  
 CN Phosphoramicidic difluoride, [(diethylamino)difluorophosphoranylidene]-(9CI) (CA INDEX NAME)



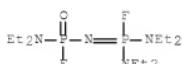
RN 166832-16-2 HCPLUS  
 CN Phosphorimidic difluoride,  
 N'-(chloro(diethylamino)phosphinyl)-N,N-diethyl- (9CI) (CA INDEX NAME)



RN 166832-19-5 HCPLUS  
 CN Phosphorofluoridimidic acid, (dichlorophosphinyl)-, diphenyl ester  
 (9CI) (CA INDEX NAME)



RN 166832-27-5 HCPLUS  
 CN Phosphorodiamicidic fluoride,  
 [bis(diethylamino)fluorophosphoranylidene]diethyl- (9CI) (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)

November 16, 2009

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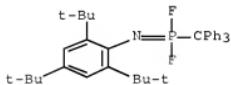
IT 16993-69-4P 25518-86-9P 80156-08-7P 166832-10-6P  
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 166832-15-1P 166832-16-2P 166832-17-3P  
 166832-18-4P 166832-19-5P 166832-20-8P 166832-21-9P  
 166832-22-0P 166832-23-1P 166832-24-2P 166832-25-3P  
 166832-26-4P 166832-27-5P 166832-29-7P 166832-30-0P

RL: SPN (Synthetic preparation); PREP (Preparation)

(fluoridolysis of N-phosphoryl phosphazenes)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L26 ANSWER 3 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1995:400249 HCPLUS Full-text  
 DOCUMENT NUMBER: 122:265509  
 ORIGINAL REFERENCE NO.: 122:48481a,48484a  
 TITLE: Reaction of Mes<sup>\*</sup>NPCl with triphenylcarbenium tetrafluoroborate  
 AUTHOR(S): Burford, Neil; Clyburne, Jason A. C.; Bakshi, Pradip K.; Cameron, T. Stanley  
 CORPORATE SOURCE: Dep. Chem., Dalhousie Univ., Halifax, NS, B3H 4J3, Can.  
 SOURCE: Phosphorus, Sulfur and Silicon and the Related Elements (1994), 93-94(1-4), 379-80  
 CODEN: PSSLEC; ISSN: 1042-6507  
 PUBLISHER: Gordon Breach  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 122:265509  
 AB Reaction of RN:PCl [R = 2,4,6-(Me<sub>3</sub>C)C<sub>6</sub>H<sub>2</sub>] with triphenylcarbenium salts (BF<sub>4</sub><sup>-</sup> or PF<sub>6</sub><sup>-</sup>) produces a difluorophosphine, RN(CPh<sub>3</sub>)PF<sub>2</sub>, and not the expected iminophosphonium cation. This compound then undergoes an Arbusov-type rearrangement to generate a difluoroiminophosphorane, RN:PF<sub>2</sub>CPh<sub>3</sub> (I). I was characterized by x-ray crystallography.  
 IT 162519-87-1P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (reaction of [tri(tert-butyl)phenyl]iminophosphine chloride with triphenylcarbenium tetrafluoroborate to give difluoroiminophosphorane)  
 RN 162519-87-1 HCPLUS  
 CN Benzenamine, N-[difluoro(triphenylmethyl)phosphoranylidene]-2,4,6-tris(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 75

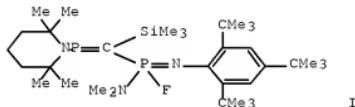
IT 162519-87-1P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(reaction of [tri(tert-butyl)phenyl]iminophosphine chloride with triphenylcarbenium tetrafluoroborate to give difluoroiminophosphorane)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L26 ANSWER 4 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1995:206310 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 122:81519  
 ORIGINAL REFERENCE NO.: 122:15491a,15494a  
 TITLE: Reactions of stable (phosphino)(silyl)carbenes with iminophosphines [(dialkylamino)(2,2,6,6-tetramethylpiperidino)phosphino](trimethylsilyl)carbenes react with [(2,4,6-tri-tert-butylphenyl)imino]phosphines bearing different substituents at P to give methylenephosphineiminophosphoranes, e.g., I.  
 AUTHOR(S): Romanenko, Vadim; Gudima, Andrei O.; Chernega, Alexandre N.; Sotiropoulos, Jean-Marc; Alcaraz, Gilles; Bertrand, Guy  
 CORPORATE SOURCE: Inst. Org. Chem., Kiev, 253660, Ukraine  
 SOURCE: Bulletin de la Societe Chimique de France (1994), 131(7), 748-53  
 PUBLISHER: Elsevier  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB [(Dialkylamino)(2,2,6,6-tetramethylpiperidino)phosphino](trimethylsilyl)carbenes react with [(2,4,6-tri-tert-butylphenyl)imino]phosphines bearing different substituents at P to give methylenephosphineiminophosphoranes, e.g., I. With P-chloro and P-bromo iminophosphines, small amts. of the isomeric methylenephosphorane-iminophosphines were also obtained.  
 [Bis(dicyclohexylamino)phosphino]trimethylsilyldiazomethane reacts with iodol[(2,4,6-tri-tert-butylphenyl)imino]phosphine to give a triazaphosphole. These results demonstrate the carbene behavior of phosphino(silyl)carbenes and bring further evidence of the synthetic importance of stable carbenes. The crystal structure of I was determined

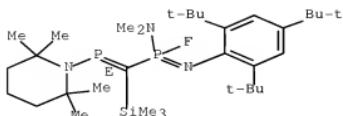
IT 160464-17-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (crystal structure; reactions of stable (phosphino)(silyl)carbenes with iminophosphines)

RN 160464-17-5 HCAPLUS

CN Phosphonamidimidic fluoride,  
 N,N-dimethyl-P-[{(2,2,6,6-tetramethyl-1-piperidinyl)phosphinidene}(trimethylsilyl)methyl]-N'-(2,4,6-tris(1,1-dimethylethyl)phenyl)-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



CC 29-7 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 75

IT 160464-17-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(crystal structure; reactions of stable (phosphino)(silyl)carbenes with iminophosphines)

OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)

L26 ANSWER 5 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:298750 HCPLUS Full-text

DOCUMENT NUMBER: 120:298750

ORIGINAL REFERENCE NO.: 120:52657a,52660a

TITLE: Fluorination of phosphorus(3+) derivatives by xenon difluoride

AUTHOR(S): Lermontov, S. A.; Popov, A. V.; Zavorin, S. I.; Sukhojenko, I. I.; Kuryleva, N. V.; Martynov, V.; Zefirov, N. S.; Stang, P.

CORPORATE SOURCE: Inst. Physiol. Active Compds., Chernogolovka, 142432, Russia

SOURCE: Journal of Fluorine Chemistry (1994), 66(3), 233-5

CODEN: JFLCAR; ISSN: 0022-1139

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 120:298750

AB Xenon difluoride, XeF<sub>2</sub>, effectively fluorinates various phosphorus acid derivs. as well as hydrophosphoryl compds. Arbuzov rearrangement is followed by iso-Bu → tert-Bu isomerization in the case of iso-BuOPF<sub>2</sub>.

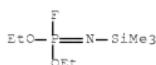
IT 80156-06-5P 155170-13-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, by oxidative fluorination of phosphite derivative with xenon difluoride)

RN 80156-06-5 HCPLUS

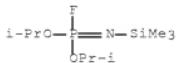
CN Phosphorofluoridimidic acid, (trimethylsilyl)-, diethyl ester (9CI) (CA INDEX NAME)



RN 155170-13-1 HCPLUS

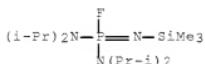
CN Phosphonimidic acid, P-fluoro-N-(trimethylsilyl)-,

bis(1-methylethyl) ester (9CI) (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 754-24-5P 1135-98-4P, Diphenylfluorophosphine oxide 5954-50-7P,  
 Dimethyl fluorophosphate 71181-74-3P 80156-06-5P  
 155170-13-1P 155170-14-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, by oxidative fluorination of phosphite derivative with  
 xenon difluoride)  
 OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS  
 RECORD (6 CITINGS)

L26 ANSWER 6 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1994:217842 HCAPLUS Full-text  
 DOCUMENT NUMBER: 120:217842  
 ORIGINAL REFERENCE NO.: 120:38697a,38700a  
 TITLE: Reaction of fluorophosphines with silylazides  
 AUTHOR(S): Riesel, L.; Friebe, R.; Sturm, D.  
 CORPORATE SOURCE: Fachber. Chem., Humboldt-Univ., Berlin, Germany  
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine  
 Chemie (1993), 619(10), 1685-8  
 CODEN: ZAACAB; ISSN: 0044-2313  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 OTHER SOURCE(S): CASREACT 120:217842  
 AB The fluorophosphines Ph<sub>2</sub>PF (1), PhOPF<sub>2</sub> (2), C<sub>5</sub>H<sub>10</sub>NPF<sub>2</sub> (3), (Et<sub>2</sub>N)PF<sub>2</sub> (4), and (Et<sub>2</sub>N)PF<sub>2</sub> (5) react with Me<sub>3</sub>SiN<sub>3</sub> via azidophosphines R<sub>3</sub>-nP(N<sub>3</sub>)<sub>n</sub> to give oligo- and polyphosphazenes, (RR'<sub>n</sub>P = N)<sub>n</sub>. [(Me<sub>2</sub>CH)<sub>2</sub>N]<sub>2</sub>PF (6), however, is oxidized by Me<sub>3</sub>SiN<sub>3</sub> yielding the N-silylated phosphazene [(Me<sub>2</sub>CH)<sub>2</sub>N]PF:NSiMe<sub>3</sub> (7). Me<sub>3</sub>CPh<sub>2</sub>SiN<sub>3</sub> is considerably less reactive. In contrast to Me<sub>3</sub>SiN<sub>3</sub> it even oxidizes 5 and 1 forming (Et<sub>2</sub>N)PF:NSiPh<sub>2</sub>CMe<sub>3</sub> (10) and Ph<sub>2</sub>PF:NSiPh<sub>2</sub>CMe<sub>3</sub>, resp.  
 IT 153982-94-6P 153982-95-7P  
 153982-96-8P 153982-97-9P 153982-99-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 153982-94-6 HCAPLUS  
 CN Phosphorodiamidimidic fluoride,  
 N,N,N',N'-tetrakis(1-methylethyl)-N''-(trimethylsilyl)- (9CI) (CA  
 INDEX NAME)

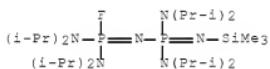


RN 153982-95-7 HCAPLUS  
 CN Phosphorodiamidimidic fluoride,  
 N''-[bis[bis(1-methylethyl)amino]phosphino]-N,N,N',N'-tetrakis(1-

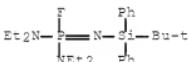
(methylethyl)- (9CI) (CA INDEX NAME)



RN 153982-96-8 HCPLUS

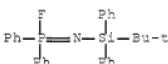
CN Phosphorodiamidimidic fluoride,  
N''-[P,P-bis[bis(1-methylethyl)amino]-N-(trimethylsilyl)phosphinimyl]-N,N,N',N'-tetrakis(1-methylethyl)-(9CI) (CA INDEX NAME)

RN 153982-97-9 HCPLUS

CN Phosphorodiamidimidic fluoride,  
N,N,N',N'-tetraethyl-N''-[(1,1-dimethylethyl)diphenylsilyl]- (9CI)  
(CA INDEX NAME)

RN 153982-99-1 HCPLUS

CN Phosphinimidic fluoride, N-[(1,1-dimethylethyl)diphenylsilyl]-P-, P-diphenyl- (9CI) (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 1110-78-7P 28212-47-7P, Poly[nitrilo(diphenylphosphoranylidyne)]

94721-86-5P 138658-75-0P 153982-94-6P

153982-95-7P 153982-96-8P 153982-97-9P

153982-99-1P 153986-43-7P 153986-44-8P 153986-45-9P

153986-46-0P 153986-47-1P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS  
RECORD (2 CITINGS)

L26 ANSWER 7 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1991:514633 HCPLUS [Full-text](#)  
 DOCUMENT NUMBER: 115:114633  
 ORIGINAL REFERENCE NO.: 115:19665a,19668a  
 TITLE: Reaction of perfluoroisobutylene and  
       perfluoropropylene with N-silylamidophosphites  
 AUTHOR(S): Lermontov, S. A.; Velikokhat'ko, T. N.;  
               Martynov, I. V.  
 CORPORATE SOURCE: Inst. Fiziolo. Akt. Veshchestv., Chernogolovka,  
                   USSR  
 SOURCE: Izvestiya Akademii Nauk SSSR, Seriya  
       Khimicheskaya (1991), (5), 1204-7  
 DOCUMENT TYPE: CODEN: IASKA6; ISSN: 0002-3353  
 LANGUAGE: Journal  
 Russian  
 OTHER SOURCE(S): CASREACT 115:114633  
 AB Reaction of CF<sub>2</sub>:C(CF<sub>3</sub>)<sub>2</sub> with RR'PNR<sub>2</sub>(SiMe<sub>3</sub>) (R = R' = EtO, R = Me<sub>2</sub>CHO,  
       Me<sub>2</sub>CHCH<sub>2</sub>O, R<sub>1</sub> = F, R<sub>2</sub> = SiMe; R = R' = EtO, R<sub>2</sub> = CMe<sub>3</sub>; R = Me<sub>2</sub>CHCH<sub>2</sub>O, R<sub>1</sub> = F,  
       R<sub>2</sub> = CMe<sub>3</sub>) at -50° to -70° gave 50-70% RR'P(:NSiMe<sub>3</sub>)CF:C(CF<sub>3</sub>)<sub>2</sub>. Reaction of  
       RR'PN(SiMe<sub>3</sub>)<sub>2</sub> (R = Me, R<sub>1</sub> = F; R = R' = EtO) with CF<sub>2</sub>:CFCF<sub>3</sub> in an autoclave at  
       70° gave RR'P(:NSiMe<sub>3</sub>)CF:CFCF<sub>3</sub>. A mechanism is proposed.  
 IT 135764-40-8P 135764-41-9P  
 135764-42-0P 135764-45-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
       (preparation of)  
 RN 135764-40-8 HCPLUS  
 CN Phosphonofluoridimidic acid,  
       P-[1,3,3,3-tetrafluoro-2-(trifluoromethyl)-1-propen-1-yl]-N-  
       (trimethylsilyl)-, 1-methylethyl ester (CA INDEX NAME)



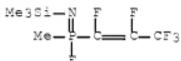
RN 135764-41-9 HCPLUS  
 CN Phosphonofluoridimidic acid,  
       P-[1,3,3,3-tetrafluoro-2-(trifluoromethyl)-1-propen-1-yl]-N-  
       (trimethylsilyl)-, 2-methylpropyl ester (CA INDEX NAME)



RN 135764-42-0 HCPLUS  
 CN Phosphonofluoridimidic acid,  
       P-[1,3,3,3-tetrafluoro-2-(trifluoromethyl)-1-propen-1-yl]-N-  
       (trimethylsilyl)-, methyl ester (CA INDEX NAME)



RN 135764-45-3 HCAPLUS  
 CN Phosphorimidic fluoride, P-methyl-P-(1,2,3,3,3-pentafluoro-1-propenyl)-N-(trimethylsilyl)- (9CI) (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 135764-39-5P 135764-40-8P 135764-41-9P  
 135764-42-0P 135764-44-2P 135764-45-3P  
 135764-46-4P 135764-47-5P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

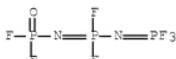
L26 ANSWER 8 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1990:145948 HCAPLUS Full-text  
 DOCUMENT NUMBER: 112:145948  
 ORIGINAL REFERENCE NO.: 112:24519a,24522a  
 TITLE: Chemical bonding in phosphonitrilic systems - comparison of the electronic structures of phosphonitrile fluoride cyclic trimer, phosphonitrile fluoride cyclic tetramer, and phosphorus nitride oxyfluoride ((F2PN)3, (F2PN)4, and OP(F2)NP(F2)NPF3)  
 AUTHOR(S): Ferris, Kim F.; Duke, C. B.  
 CORPORATE SOURCE: Pacific Northwest Lab., Richland, WA, 99352, USA  
 SOURCE: International Journal of Quantum Chemistry, Quantum Chemistry Symposium (1989), 23, 397-407  
 CODEN: IJQSDI; ISSN: 0161-3642  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The electronic structure of phosphonitrilic systems contain both  $\pi'$  (in plane) and  $\pi$  (out-of-plane) bonding systems. Earlier work in this laboratory has indicated that the d-orbital involvement in these systems affects primarily the electronic structure, and is modulated by ligand electronegativity. Ab initio MO calcns. were performed on a series of small phosphazene mols. ((F2PN)3, (F2PN)4, and OP(F2)NP(F2)NPF3) to elucidate the electronic and mol. structure of these mols. as models for polymeric systems. The chemical bonding and charge distribution in the phosphonitrilic trimers, tetramers, and these small fragments are highly polarized, primarily through the  $\pi$  and  $\pi'$  bonding networks. Our results indicate that while the majority of the electronic aspects of OP(F2)NP(F2)NPF3 can be described by analogies to (F2PN)3 and (F2PN)4, major geometric differences such as bond alternation are evident. The opening of the P-N-P bond angles in the linear fragment results in reduced overlap over multiple centers, promoting "islands of delocalization" first proposed by M. J. S. Dewar, et al., (1960).

IT 126050-28-0

RL: PRP (Properties)  
(electronic structure and mol. structure of, ab-initio MO calcns.  
of)

RN 126050-28-0 HCPLUS

CN Phosphorimidic trifluoride, [N-(difluorophosphinyl)-P,P-difluorophosphinimyl]-(9CI) (CA INDEX NAME)



CC 65-5 (General Physical Chemistry)

IT 14700-00-6 15599-91-4 126050-28-0

RL: PRP (Properties)  
(electronic structure and mol. structure of, ab-initio MO calcns.  
of)OS.CITING REF COUNT: 26 THERE ARE 26 CAPLUS RECORDS THAT CITE THIS  
RECORD (26 CITINGS)

L26 ANSWER 9 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1990:77366 HCPLUS Full-text

DOCUMENT NUMBER: 112:77366

ORIGINAL REFERENCE NO.: 112:13231a,13234a

TITLE: Oxidation of

AUTHOR(S): bis(trimethylsilyl)amidotdifluorophosphite

Lermontov, S. A.; Sukhova, N. V.; Martynov, I. V.

CORPORATE SOURCE: Inst. Fiziol. Akt. Veshchestv, Chernogolovka,  
USSRSOURCE: Izvestiya Akademii Nauk SSSR, Seriya  
Khimicheskaya (1989), (6), 1426-8

CODEN: IASKA6; ISSN: 0002-3353

DOCUMENT TYPE: Journal

LANGUAGE: Russian

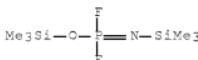
OTHER SOURCE(S): CASREACT 112:77366

AB Reaction of F2PN(SiMe3)2 with Me3COCl in pentane gave nearly equivalent amts.  
of Me3SiOPF2:N SiMe3 and F2P(O)NSiMe3.

IT 66416-57-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 66416-57-7 HCPLUS

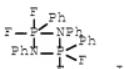
CN Phosphorodifluoridimidic acid, (trimethylsilyl)-, trimethylsilyl  
ester (9CI) (CA INDEX NAME)

CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 25313-69-3P 66416-57-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

L26 ANSWER 10 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 1988:631271 HCPLUS Full-text  
DOCUMENT NUMBER: 109:231271  
ORIGINAL REFERENCE NO.: 109:38261a,38264a  
TITLE: On the reaction of phosphorus(III) fluorides  
with phenyl azide  
AUTHOR(S): Singer, R. J.; Storzer, W.; Schmutzler, R.  
CORPORATE SOURCE: Dep. Chem., Univ. Technol., Loughborough/Leics.,  
UK  
SOURCE: Zeitschrift fuer Anorganische und Allgemeine  
Chemie (1987), 555, 154-60  
CODEN: ZAACAB; ISSN: 0044-2313  
DOCUMENT TYPE: Journal  
LANGUAGE: German  
OTHER SOURCE(S): CASREACT 109:231271  
GI



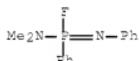
AB The Staudinger reaction of RR1PF (R = R1 = CMe3, Me2N, EtO; R = CMe3, R1 = F; R = Et, R1 = Et2N; R = Ph, R1 = Me2N, Et2N; R = Me2N, Et2N, R1 = F) with PhN3 gave 68-89% RR1P:NPh, whereas the reaction of PhPF2 with PhN3 gave 90% diazadiphospholidine I.

IT 109659-53-2P 109659-57-6P  
109659-74-7P 109659-76-9P 109678-04-8P  
117556-00-0P 117556-01-1P 117556-02-2P  
117556-03-3P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

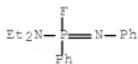
RN 109659-53-2 HCPLUS

CN Phosphonamidimidic fluoride, N,N-dimethyl-N',P-diphenyl- (9CI) (CA INDEX NAME)

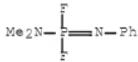


RN 109659-57-6 HCPLUS

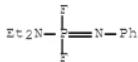
CN Phosphonamidimidic fluoride, N,N-diethyl-N',P-diphenyl- (9CI) (CA INDEX NAME)



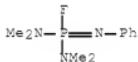
RN 109659-74-7 HCAPLUS  
 CN Phosphorimidic difluoride, N,N-dimethyl-N'-phenyl- (CA INDEX NAME)



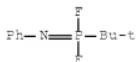
RN 109659-76-9 HCAPLUS  
 CN Phosphorimidic difluoride, N,N-diethyl-N'-phenyl- (CA INDEX NAME)



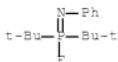
RN 109678-04-8 HCAPLUS  
 CN Phosphorodiamidic fluoride, N,N,N',N'-tetramethyl-N''-phenyl- (9CI) (CA INDEX NAME)



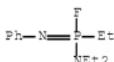
RN 117556-00-0 HCAPLUS  
 CN Phosphonimidic difluoride, P-(1,1-dimethylethyl)-N-phenyl- (CA INDEX NAME)



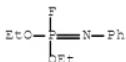
RN 117556-01-1 HCAPLUS  
 CN Phosphinimidic fluoride, P,P-bis(1,1-dimethylethyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 117556-02-2 HCAPLUS  
 CN Phosphonamidimidic fluoride, N,N,P-triethyl-N'-phenyl- (9CI) (CA INDEX NAME)



RN 117556-03-3 HCAPLUS  
 CN Phosphorofluoridimidic acid, phenyl-, diethyl ester (9CI) (CA INDEX NAME)



CC 29-14 (Organometallic and Organometalloidal Compounds)  
 IT 51907-85-8P 109659-53-2P 109659-57-6P  
 109659-74-7P 109659-76-9P 109678-04-8P  
 117556-00-0P 117556-01-1P 117556-02-2P  
 117556-03-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 11 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1988:6083 HCAPLUS Full-text  
 DOCUMENT NUMBER: 108:6083  
 ORIGINAL REFERENCE NO.: 108:1159a,1162a  
 TITLE: Synthesis of fluoro- $\lambda^5$ -monophosphazenes  
 and  
 fluoro-1,3-diaza-2 $\lambda^5$ ,4 $\lambda^5$ -diphospho  
 tidines by means of the Staudinger reaction  
 AUTHOR(S): Riesel, L.; Sturm, D.; Nagel, A.; Taudien, S.;  
 Beuster, A.; Karwatzki, A.  
 CORPORATE SOURCE: Sekt. Chem., Humboldt-Univ., Berlin, DDR-1040,  
 Ger. Dem. Rep.  
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine  
 Chemie (1986), 542, 157-66  
 CODEN: ZAACAB; ISSN: 0044-2313  
 DOCUMENT TYPE:  
 LANGUAGE:  
 OTHER SOURCE(S): CASREACT 108:6083

AB Thirty-five tetrafluoro- and 2 difluorodiazadiphosphetidines as well as 4 difluoro- and 30 monofluoro- $\lambda^5$ -monophosphazenes were prepared by the Staudinger reaction between tervalent phosphorus fluorides, RnPF3-n (n = 1, 2; R = morpholino, piperidino, alkyl, (un)substituted aryl) and Ph azides, XC6H4N3 (X = H, 4-Me, 4-Cl, 4-Br, 4-NO2, 3-NO2). PF3 does not react with phenyl azide. The influence of substituents on the structure of the reaction products is discussed. From kinetic measurements the consts. of the substituents piperidino, morpholino, and RPhN (R = Me, Et, Bu) were determined

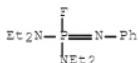
IT 86601-02-7P 109659-44-1P

109659-45-2P	109659-46-3P	109659-47-4P
109659-48-5P	109659-49-6P	109659-50-9P
109659-51-0P	109659-52-1P	109659-53-2P
109659-54-3P	109659-55-4P	109659-56-5P
109659-57-6P	109659-58-7P	109659-59-8P
109659-60-1P	109659-61-2P	109659-62-3P
109659-63-4P	109659-64-5P	109659-65-6P
109659-66-7P	109659-67-8P	109659-68-9P
109659-69-0P	109659-70-3P	109659-71-4P
109659-72-5P	109659-73-6P	109678-04-8P
109678-05-9P	109678-06-0P	

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

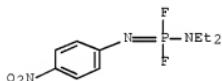
RN 86601-02-7 HCPLUS

CN Phosphoramidimidic fluoride, N,N,N',N'-tetraethyl-N''-phenyl-  
(9CI) (CA INDEX NAME)



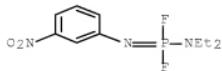
RN 109659-44-1 HCPLUS

CN Phosphoramidimidic difluoride, N,N-diethyl-N'-(4-nitrophenyl)- (CA INDEX NAME)



RN 109659-45-2 HCPLUS

CN Phosphoramidimidic difluoride, N,N-diethyl-N'-(3-nitrophenyl)- (CA INDEX NAME)



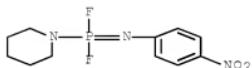
November 16, 2009

10/540,558

19

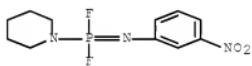
RN 109659-46-3 HCAPLUS

CN Phosphonimidic difluoride, N-(4-nitrophenyl)-P-1-piperidinyl- (CA INDEX NAME)



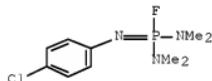
RN 109659-47-4 HCAPLUS

CN Phosphonimidic difluoride, N-(3-nitrophenyl)-P-1-piperidinyl- (CA INDEX NAME)



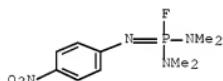
RN 109659-48-5 HCAPLUS

CN Phosphorodiamidimidic fluoride,  
N''-(4-chlorophenyl)-N,N,N',N'-tetramethyl- (9CI) (CA INDEX NAME)



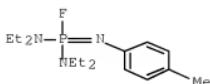
RN 109659-49-6 HCAPLUS

CN Phosphorodiamidimidic fluoride,  
N,N,N',N'-tetramethyl-N''-(4-nitrophenyl)- (9CI) (CA INDEX NAME)

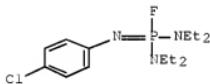


RN 109659-50-9 HCAPLUS

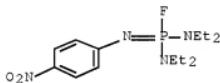
CN Phosphorodiamidimidic fluoride,  
N,N,N',N'-tetraethyl-N''-(4-methylphenyl)- (9CI) (CA INDEX NAME)



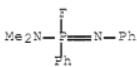
RN 109659-51-0 HCAPLUS  
 CN Phosphorodiamidimidic fluoride,  
 N,N,N',N'-tetraethyl-N''-(4-chlorophenyl)- (9CI) (CA INDEX NAME)



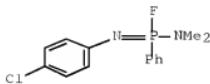
RN 109659-52-1 HCAPLUS  
 CN Phosphorodiamidimidic fluoride,  
 N,N,N',N'-tetraethyl-N''-(4-nitrophenyl)- (9CI) (CA INDEX NAME)



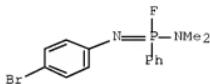
RN 109659-53-2 HCAPLUS  
 CN Phosphonamidimidic fluoride, N,N-dimethyl-N',P-diphenyl- (9CI) (CA INDEX NAME)



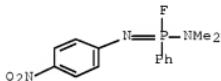
RN 109659-54-3 HCAPLUS  
 CN Phosphonamidimidic fluoride,  
 N'-(4-chlorophenyl)-N,N-dimethyl-P-phenyl- (9CI) (CA INDEX NAME)



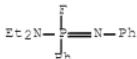
RN 109659-55-4 HCAPLUS  
 CN Phosphonamidimidic fluoride,  
 N'-(4-bromophenyl)-N,N-dimethyl-P-phenyl- (9CI) (CA INDEX NAME)



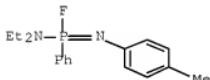
RN 109659-56-5 HCAPLUS  
 CN Phosphonamidimidic fluoride,  
 N,N-dimethyl-N'-(4-nitrophenyl)-P-phenyl- (9CI) (CA INDEX NAME)



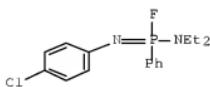
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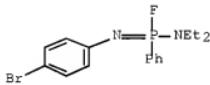
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 N,N-diethyl-N'-(4-methylphenyl)-P-phenyl- (9CI) (CA INDEX NAME)



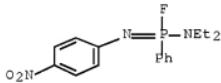
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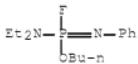
RN 109659-60-1 HCPLUS  
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 N'-(4-bromophenyl)-N,N-diethyl-P-phenyl- (9CI) (CA INDEX NAME)



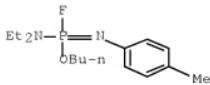
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 N,N-diethyl-N'-(4-nitrophenyl)-P-phenyl- (9CI) (CA INDEX NAME)



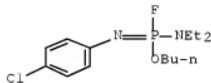
RN 109659-62-3 HCPLUS  
 CN Phosphoramidofluoridimidic acid, N,N-diethyl-N'-phenyl-, butyl ester  
 (9CI) (CA INDEX NAME)



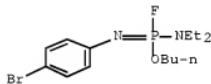
RN 109659-63-4 HCPLUS  
 CN Phosphoramidofluoridimidic acid, N,N-diethyl-N'-(4-methylphenyl)-,  
 butyl ester (9CI) (CA INDEX NAME)



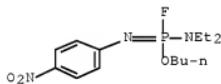
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CN Phosphoramidofluoridimidic acid, N'-(4-chlorophenyl)-N,N-diethyl-,  
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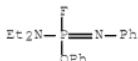
RN 109659-65-6 HCPLUS

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RN 109659-66-7 HCPLUS

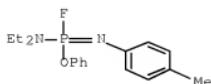
CN Phosphoramidofluoridimidic acid, N,N-diethyl-N'-(4-nitrophenyl)-,  
butyl ester (9CI) (CA INDEX NAME)

RN 109659-67-8 HCPLUS

CN Phosphoramidofluoridimidic acid, N,N-diethyl-N'-phenyl-, phenyl  
ester (9CI) (CA INDEX NAME)

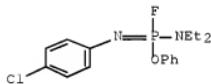
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CN Phosphoramidofluoridimidic acid, N,N-diethyl-N'-(4-methylphenyl)-,  
phenyl ester (9CI) (CA INDEX NAME)



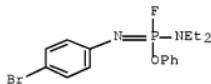
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CN Phosphoramidofluoridimidic acid, N'-(4-chlorophenyl)-N,N-diethyl-, phenyl ester (9CI) (CA INDEX NAME)



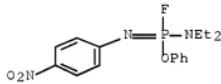
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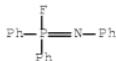
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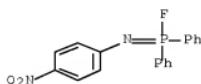
RN 109659-72-5 HCPLUS

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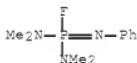
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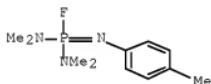
RN 109678-04-8 HCPLUS

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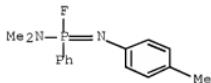
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CN Phosphorodiamidimidic fluoride, N,N,N',N'-tetramethyl-N''-(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 109678-06-0 HCPLUS

CN Phosphonamidimidic fluoride, N,N-dimethyl-N'-(4-methylphenyl)-P-phenyl- (9CI) (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 22

IT 657-97-6P 51907-85-8P 67374-25-8P 86601-02-7P

91675-81-9P 91675-82-0P 91675-83-1P 109659-17-4P

109659-18-9P 109659-19-0P 109659-20-3P 109659-21-4P

109659-22-5P 109659-23-6P 109659-24-7P 109659-25-8P

109659-26-9P 109659-28-1P 109659-29-2P 109659-30-5P

109659-31-6P 109659-32-7P 109659-33-8P 109659-34-9P

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111767-56-7P			

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L26 ANSWER 12 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 1987:477931 HCAPLUS Full-text  
DOCUMENT NUMBER: 107:77931  
ORIGINAL REFERENCE NO.: 107:12833a,12836a  
TITLE: NMR investigations of  
fluorodiazadiphosphetidines and  
fluoro- $\lambda$ -monophosphazenes  
AUTHOR(S): Riesel, L.; Sturm, D.; Zschunke, A.; Thomas, B.  
CORPORATE SOURCE: Sekt. Chem., Humboldt-Univ., Berlin, DDR-1040,  
Ger. Dem. Rep.  
SOURCE: Zeitschrift fuer Anorganische und Allgemeine  
Chemie (1987), 544, 225-31  
CODEN: ZAACAB; ISSN: 0044-2313  
DOCUMENT TYPE: Journal  
LANGUAGE: German  
AB The 19F and 31P NMR data of 37 fluorodiazadiphosphetidines [R1PFNC6H4X]2 [R =  
amino, (un)substituted aryl; R1 = F, amino, Ph, OBu, etc.; X = H, Me, halo,  
NO<sub>2</sub>, etc.] and 62 fluoro- $\lambda$ -monophosphazenes, RR1PF:NCH<sub>4</sub>X, are submitted. In  
the case of tetrafluorodiazadiphosphetidines, [RPF2NC6H4X]<sub>2</sub>, an intramol.  
exchange of the F atoms at P is concluded from the NMR data. The influence of  
the substituents R and X on the NMR parameters is discussed using simple  
models of mol. structure.

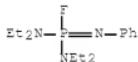
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109659-94-1 109659-95-2 109659-96-3  
 109659-97-4 109659-98-5 109659-99-6  
 109678-04-8 109678-05-9 109678-06-0

RL: PROC (Process)  
 (fluorine-19 and phosphorus-31 NMR of)

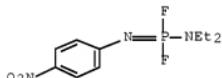
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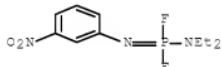
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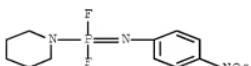
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 INDEX NAME)



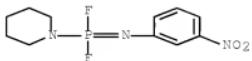
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CN Phosphonimidic difluoride, N-(4-nitrophenyl)-P-1-piperidinyl- (CA  
 INDEX NAME)

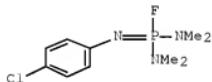


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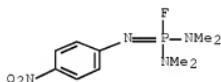
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 INDEX NAME)



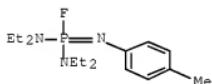
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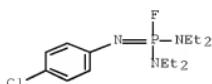
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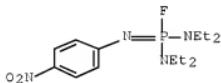
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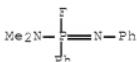
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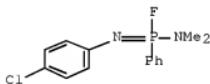
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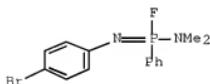
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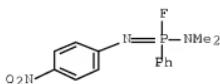
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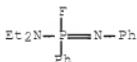
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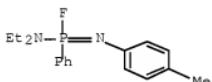
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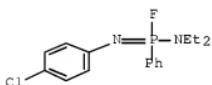
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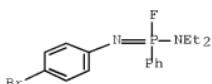
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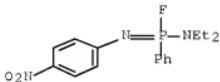
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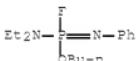
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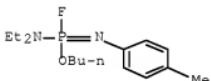
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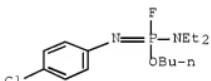
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 (9CI) (CA INDEX NAME)



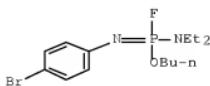
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 butyl ester (9CI) (CA INDEX NAME)



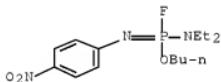
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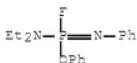
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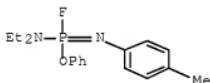
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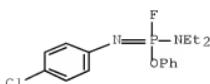
RN 109659-67-8 HCPLUS  
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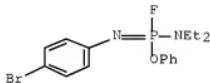


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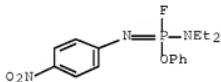
RN 109659-70-3 HCPLUS

CN Phosphoramidofluoridimidic acid, N'-(4-bromophenyl)-N,N-diethyl-, phenyl ester (9CI) (CA INDEX NAME)



RN 109659-71-4 HCPLUS

CN Phosphoramidofluoridimidic acid, N,N-diethyl-N'-(4-nitrophenyl)-, phenyl ester (9CI) (CA INDEX NAME)



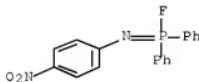
RN 109659-72-5 HCPLUS

CN Phosphinimidic fluoride, triphenyl- (9CI) (CA INDEX NAME)



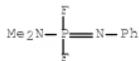
RN 109659-73-6 HCPLUS

CN Phosphinimidic fluoride, N-(4-nitrophenyl)-P,P-diphenyl- (9CI) (CA INDEX NAME)

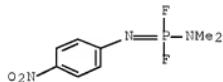


RN 109659-74-7 HCPLUS

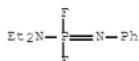
CN Phosphoramidimidic difluoride, N,N-dimethyl-N'-phenyl- (CA INDEX NAME)



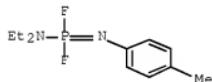
RN 109659-75-8 HCAPLUS  
 CN Phosphoranimidic difluoride, N,N-dimethyl-N'-(4-nitrophenyl)- (CA INDEX NAME)



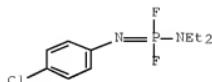
RN 109659-76-9 HCAPLUS  
 CN Phosphoranimidic difluoride, N,N-diethyl-N'-phenyl- (CA INDEX NAME)



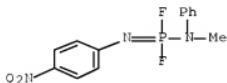
RN 109659-77-0 HCAPLUS  
 CN Phosphoranimidic difluoride, N,N-diethyl-N'-(4-methylphenyl)- (CA INDEX NAME)



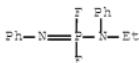
RN 109659-78-1 HCAPLUS  
 CN Phosphoranimidic difluoride, N'-(4-chlorophenyl)-N,N-diethyl- (CA INDEX NAME)



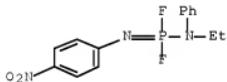
RN 109659-79-2 HCAPLUS

CN Phosphoramidimidic difluoride, N-methyl-N'-(4-nitrophenyl)-N-phenyl-  
(CA INDEX NAME)

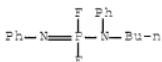
RN 109659-80-5 HCAPLUS

CN Phosphoramidimidic difluoride, N-ethyl-N,N'-diphenyl- (CA INDEX  
NAME)

RN 109659-81-6 HCAPLUS

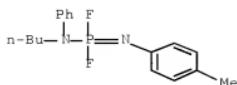
CN Phosphoramidimidic difluoride, N-ethyl-N'-(4-nitrophenyl)-N-phenyl-  
(CA INDEX NAME)

RN 109659-82-7 HCAPLUS

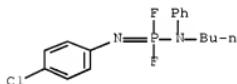
CN Phosphoramidimidic difluoride, N-butyl-N,N'-diphenyl- (CA INDEX  
NAME)

RN 109659-83-8 HCAPLUS

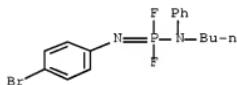
CN Phosphoramidimidic difluoride, N-butyl-N'-(4-methylphenyl)-N-phenyl-  
(CA INDEX NAME)



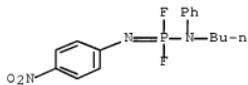
RN 109659-84-9 HCPLUS  
 CN Phosphoranimidic difluoride, N-butyl-N'-(4-chlorophenyl)-N-phenyl-  
 (CA INDEX NAME)



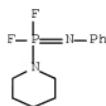
RN 109659-85-0 HCPLUS  
 CN Phosphoranimidic difluoride, N'-(4-bromophenyl)-N-butyl-N-phenyl-  
 (CA INDEX NAME)



RN 109659-86-1 HCPLUS  
 CN Phosphoranimidic difluoride, N-butyl-N'-(4-nitrophenyl)-N-phenyl-  
 (CA INDEX NAME)

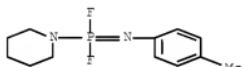


RN 109659-87-2 HCPLUS  
 CN Phosphonimidic difluoride, N-phenyl-P-1-piperidinyl- (CA INDEX  
 NAME)



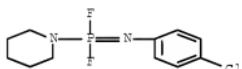
RN 109659-88-3 HCPLUS

CN Phosphonimidic difluoride, N-(4-methylphenyl)-P-1-piperidinyl- (CA INDEX NAME)



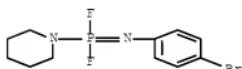
RN 109659-89-4 HCPLUS

CN Phosphonimidic difluoride, N-(4-chlorophenyl)-P-1-piperidinyl- (CA INDEX NAME)



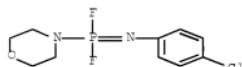
RN 109659-90-7 HCPLUS

CN Phosphonimidic difluoride, N-(4-bromophenyl)-P-1-piperidinyl- (CA INDEX NAME)



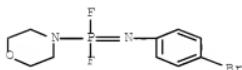
RN 109659-91-8 HCPLUS

CN Phosphonimidic difluoride, N-(4-chlorophenyl)-P-4-morpholinyl- (CA INDEX NAME)



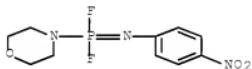
RN 109659-92-9 HCPLUS

CN Phosphonimidic difluoride, N-(4-bromophenyl)-P-4-morpholinyl- (CA INDEX NAME)



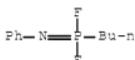
RN 109659-93-0 HCPLUS

CN Phosphonimidic difluoride, P-4-morpholinyl-N-(4-nitrophenyl)- (CA INDEX NAME)



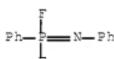
RN 109659-94-1 HCPLUS

CN Phosphonimidic difluoride, P-butyl-N-phenyl- (CA INDEX NAME)



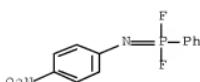
RN 109659-95-2 HCPLUS

CN Phosphonimidic difluoride, diphenyl- (9CI) (CA INDEX NAME)



RN 109659-96-3 HCPLUS

CN Phosphonimidic difluoride, N-(4-nitrophenyl)-P-phenyl- (CA INDEX NAME)



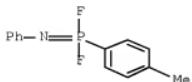
November 16, 2009

10/540,558

39

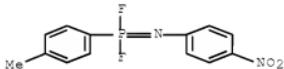
RN 109659-97-4 HCAPLUS

CN Phosphonimidic difluoride, P-(4-methylphenyl)-N-phenyl- (CA INDEX NAME)



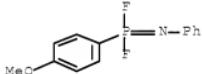
RN 109659-98-5 HCAPLUS

CN Phosphonimidic difluoride, P-(4-methylphenyl)-N-(4-nitrophenyl)- (CA INDEX NAME)



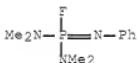
RN 109659-99-6 HCAPLUS

CN Phosphonimidic difluoride, P-(4-methoxyphenyl)-N-phenyl- (CA INDEX NAME)



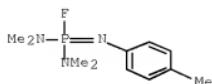
RN 109678-04-8 HCAPLUS

CN Phosphorodiamidimidic fluoride, N,N,N',N'-tetramethyl-N''-phenyl- (9CI) (CA INDEX NAME)

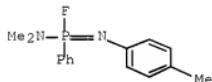


RN 109678-05-9 HCAPLUS

CN Phosphorodiamidimidic fluoride, N,N,N',N'-tetramethyl-N''-(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 109678-06-0 HCPLUS  
 CN Phosphonamidimidic fluoride,  
 N,N-dimethyl-N'-(4-methylphenyl)-P-phenyl- (9CI) (CA INDEX NAME)



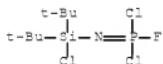
CC 29-7 (Organometallic and Organometalloidal Compounds)

IT	15199-01-6	67374-25-8	86601-02-7	91675-82-0	
	91675-83-1	109659-17-8	109659-18-9	109659-19-0	109659-20-3
	109659-21-4	109659-22-5	109659-23-6	109659-24-7	109659-25-8
	109659-26-9	109659-27-0	109659-28-1	109659-29-2	109659-30-5
	109659-31-6	109659-32-7	109659-33-8	109659-34-9	109659-35-0
	109659-36-1	109659-37-2	109659-38-3	109659-39-4	109659-40-7
	109659-41-8	109659-42-9	109659-43-0	109659-44-1	
	109659-45-2	109659-46-3	109659-47-4		
	109659-48-5	109659-49-6	109659-50-9		
	109659-51-0	109659-52-1	109659-53-2		
	109659-54-3	109659-55-4	109659-56-5		
	109659-57-6	109659-58-7	109659-59-8		
	109659-60-1	109659-61-2	109659-62-3		
	109659-63-4	109659-64-5	109659-65-6		
	109659-66-7	109659-67-8	109659-68-9		
	109659-69-0	109659-70-3	109659-71-4		
	109659-72-5	109659-73-6	109659-74-7		
	109659-75-8	109659-76-9	109659-77-0		
	109659-78-1	109659-79-2	109659-80-5		
	109659-81-6	109659-82-7	109659-83-8		
	109659-84-9	109659-85-0	109659-86-1		
	109659-87-2	109659-88-3	109659-89-4		
	109659-90-7	109659-91-8	109659-92-9		
	109659-93-0	109659-94-1	109659-95-2		
	109659-96-3	109659-97-4	109659-98-5		
	109659-99-6	109660-00-6	109660-01-7	109678-00-4	
	109678-01-5	109678-02-6	109678-03-7	109678-04-8	
	109678-05-9	109678-06-0	109713-73-7		
	109717-51-3				

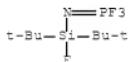
RL: PROC (Process)  
 (fluorine-19 and phosphorus-31 NMR of)

L26 ANSWER 13 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1987:176476 HCPLUS [Full-text](#)  
 DOCUMENT NUMBER: 106:176476  
 ORIGINAL REFERENCE NO.: 106:28649a,28652a  
 TITLE: N-(Halosilyl)phosphinimines: novel

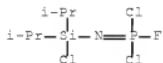
AUTHOR(S): Kliebisch, U.; Klingebiel, U.  
 CORPORATE SOURCE: Inst. Anorg. Chemie, Univ. Goettingen,  
 Goettingen, D-3400, Fed. Rep. Ger.  
 SOURCE: Journal of Organometallic Chemistry (1986), 314(1-2), 33-8  
 CODEN: JORCAI; ISSN: 0022-328X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 OTHER SOURCE(S): CASREACT 106:176476  
**AB** ( $\text{Me}_3\text{C}$ ) $2\text{SiFNH}_2$  reacts with  $\text{PX}_5$  ( $\text{X} = \text{Cl}, \text{F}$ ) in a molar ratio 2:1 via fluorosilylaminophosphoranes to give fluorosilylphosphinimines ( $\text{Me}_3\text{C}$ ) $2\text{SiFN:PCl}_3$  [ $\text{X} = \text{Cl}, \text{F}$  (I)]. I is converted to ( $\text{Me}_3\text{C}$ ) $2\text{SiClN:PCl}_2\text{F}$  (II) in a chloro-fluoro exchange. After the reaction of ( $\text{Me}_2\text{CH}$ ) $2\text{SiFNH}_2$  with  $\text{PCl}_5$ , ( $\text{Me}_2\text{CH}$ ) $2\text{SiClN:PCl}_2\text{F}$  is isolated. Substitution at the P atom occurs in the reaction of II with alcohols and silylamines.  
**2-Silylimino-1,3-daza-2 $\lambda$ 5-phospho-4-silacyclobutanes result from the reaction of II with ( $\text{LiCMe}_3$ ) $2\text{SiMe}_2$ .**  
**IT** 107996-28-1P  
**RL:** RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
**RACT** (Reactant or reagent)  
 (preparation and reactions of)  
**RN** 107996-28-1 HCAPLUS  
**CN** Phosphorimidic dichloride fluoride, [chlorobis(1,1-dimethylethyl)silyl]- (9CI) (CA INDEX NAME)



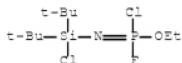
**IT** 107996-26-9P 107996-29-2P  
 107996-30-5P 107996-31-6P 107996-32-7P  
 107996-34-9P  
**RL:** SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
**RN** 107996-26-9 HCAPLUS  
**CN** Phosphorimidic trifluoride, [bis(1,1-dimethylethyl)fluorosilyl]- (9CI) (CA INDEX NAME)



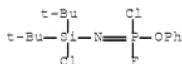
**RN** 107996-29-2 HCAPLUS  
**CN** Phosphorimidic dichloride fluoride, [chlorobis(1-methylethyl)silyl]- (9CI) (CA INDEX NAME)



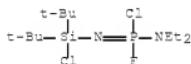
RN 107996-30-5 HCAPLUS  
 CN Phosphorochloridofluoridimidic acid,  
 [chlorobis(1,1-dimethylethyl)silyl]-, ethyl ester (9CI) (CA INDEX  
 NAME)



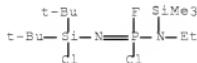
RN 107996-31-6 HCAPLUS  
 CN Phosphorochloridofluoridimidic acid,  
 [chlorobis(1,1-dimethylethyl)silyl]-, phenyl ester (9CI) (CA INDEX  
 NAME)



RN 107996-32-7 HCAPLUS  
 CN Phosphoramidimidic chloride fluoride,  
 N'-[chlorobis(1,1-dimethylethyl)silyl]-N,N-diethyl- (9CI) (CA INDEX  
 NAME)

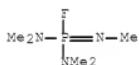


RN 107996-34-9 HCAPLUS  
 CN Phosphoramidimidic chloride fluoride,  
 N'-[chlorobis(1,1-dimethylethyl)silyl]-N-ethyl-N-(trimethylsilyl)-  
 (9CI) (CA INDEX NAME)

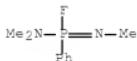


CC 29-6 (Organometallic and Organometalloidal Compounds)  
 IT 107996-28-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (preparation and reactions of)  
 IT 107996-26-9P 107996-29-2P  
 107996-30-5P 107996-31-6P 107996-32-7P  
 107996-33-8P 107996-34-9P 107996-35-0P 107996-36-1P  
 107996-37-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS  
 RECORD (1 CITINGS)

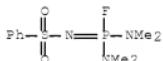
L26 ANSWER 14 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1986:609025 HCAPLUS Full-text  
 DOCUMENT NUMBER: 105:209025  
 ORIGINAL REFERENCE NO.: 105:33711a,33714a  
 TITLE: Thermal dealkylation of  
 (alkylamino)fluorophosphonium halides  
 AUTHOR(S): Marchenko, A. P.; Kudryavtsev, A. A.; Tsymbal,  
 I. F.; Pinchuk, A. M.  
 CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR  
 SOURCE: Zhurnal Obshchei Khimii (1985),  
 55(11), 2627-8  
 CODEN: ZOKHA4; ISSN: 0044-460X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 OTHER SOURCE(S): CASREACT 105:209025  
 AB Me2NP+F(NMeR)R1 X- (I; R = Me; R1 = NMe2, Ph; X = Br) were reversibly  
 dealkylated at 290-300° to give Me2NPF(:NR)R1. I (R = SO2Ph, R1 = NMe2, X =  
 Cl) was irreversibly dealkylated at 79° to give (Me2N)2PF:NSO2Ph.  
 IT 7549-84-0P  
 RL: PREP (Preparation)  
 (formation and reaction with benzenesulfonyl chloride)  
 RN 7549-84-0 HCAPLUS  
 CN Phosphorodiamidimidic fluoride, pentamethyl- (7CI, 8CI, 9CI) (CA  
 INDEX NAME)



IT 105263-83-0P 105263-84-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 105263-83-0 HCAPLUS  
 CN Phosphonamidimidic fluoride, N,N,N'-trimethyl-P-phenyl- (9CI) (CA  
 INDEX NAME)



RN 105263-84-1 HCAPLUS  
 CN Benzenesulfonamide, N-[bis(dimethylamino)fluorophosphorylidene]-  
 (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 7549-84-0P

RL: PREP (Preparation)  
 (formation and reaction with benzenesulfonyl chloride)

IT 105263-83-0P 105263-84-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 15 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1983:470842 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 99:70842

ORIGINAL REFERENCE NO.: 99:1101la,11014a

TITLE: Diamidofluorophosphazo compounds

AUTHOR(S): Marchenko, A. P.; Kovanya, V. A.; Pinchuk, A. M.

CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR

SOURCE: Zhurnal Obshchey Khimii (1983), 53(3),  
 698-9

CODEN: ZOKHA4; ISSN: 0044-460X  
 DOCUMENT TYPE: Journal

LANGUAGE: Russian

OTHER SOURCE(S): CASREACT 99:70842

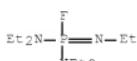
AB Fluorination of (R2N)2P(Cl):NR1 [R = R1 = Et, Pr, Bu; R = Et, R1 = Ph; R2N = EtPhN, R1 = Ph; R2N = piperidino, R1 = (CH2)3CH:CH2] with HF gave (R2N)2P(F):NR1.

IT 86600-99-9P 86601-00-5P 86601-01-6P  
 86601-02-7P 86601-03-8P 86601-04-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

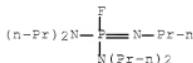
RN 86600-99-9 HCAPLUS

CN Phosphorodiamidimidic fluoride, pentaethyl- (9CI) (CA INDEX NAME)



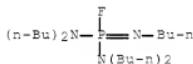
RN 86601-00-5 HCAPLUS

CN Phosphorodiamidimidic fluoride, pentapropyl- (9CI) (CA INDEX NAME)



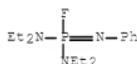
RN 86601-01-6 HCPLUS

CN Phosphorodiamidimidic fluoride, pentabutyl- (9CI) (CA INDEX NAME)



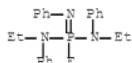
RN 86601-02-7 HCPLUS

CN Phosphorodiamidimidic fluoride, N,N,N',N'-tetraethyl-N''-phenyl- (9CI) (CA INDEX NAME)



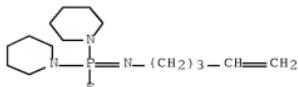
RN 86601-03-8 HCPLUS

CN Phosphorodiamidimidic fluoride, N,N'-diethyl-N,N',N''-triphenyl- (9CI) (CA INDEX NAME)



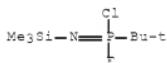
RN 86601-04-9 HCPLUS

CN Phosphinimidic fluoride, N-4-pentenyl-P,P-di-1-piperidinyl- (9CI) (CA INDEX NAME)

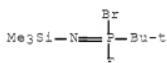


CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 86600-99-9P 86601-00-5P 86601-01-6P  
 86601-02-7P 86601-03-8P 86601-04-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 16 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1982:544933 HCPLUS Full-text  
 DOCUMENT NUMBER: 97:144933  
 ORIGINAL REFERENCE NO.: 97:24145a,24148a  
 TITLE: Phosphazo compounds with different halogens at  
 the phosphorus atom  
 AUTHOR(S): Gololobov, Yu. G.; Gusar, N. I.; Randina, L. V.  
 CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR  
 SOURCE: Zhurnal Obshchey Khimii (1982), 52(6),  
 1260-5  
 CODEN: ZOKHA4; ISSN: 0044-460X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 OTHER SOURCE(S): CASREACT 97:144933  
 AB Reaction of Me3CPR2 (R = Cl, Br, F) with NaN(SiMe3)2 gave R(Me3C)PN(SiMe3)2  
 which on halogenation gave 38-73% RR1(Me3C)P:NSiMe3 (R1 = Cl, Br, Iodo).  
 IT 83128-25-0P 83128-26-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 83128-25-0 HCPLUS  
 CN Phosphonimidic chloride fluoride,  
 P-(1,1-dimethylethyl)-N-(trimethylsilyl)- (9CI) (CA INDEX NAME)



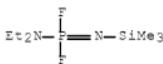
RN 83128-26-1 HCPLUS  
 CN Phosphonimidic bromide fluoride,  
 P-(1,1-dimethylethyl)-N-(trimethylsilyl)- (9CI) (CA INDEX NAME)



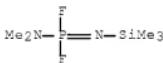
CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 83128-22-7P 83128-23-8P 83128-24-9P 83128-25-0P  
 83128-26-1P 83128-27-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS  
 RECORD (3 CITINGS)

L26 ANSWER 17 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1982:6805 HCPLUS Full-text

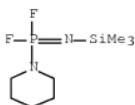
DOCUMENT NUMBER: 96:6805  
 ORIGINAL REFERENCE NO.: 96:1239a,1242a  
 TITLE: Fluorophosphazosilanes  
 AUTHOR(S): Filonenko, L. P.; Kudryavtsev, A. A.; Pinchuk,  
                  A. M.  
 CORPORATE SOURCE: USSR  
 SOURCE: Zhurnal Obshchei Khimii (1981), 51(9),  
                  1971-5  
 DOCUMENT TYPE: CODEN: ZOKHA4; ISSN: 0044-460X  
 LANGUAGE: Journal  
                  Russian  
 OTHER SOURCE(S): CASREACT 96:6805  
 AB     The title compds. RnPF<sub>3-n</sub>:NSiMe<sub>3</sub> (I, R = alkoxy, dialkylamino, n = 1, 2) were prepared in 34-62% yields by treating (Me<sub>3</sub>Si)<sub>2</sub>NCl with RnPF<sub>3-n</sub>. Treating Et<sub>2</sub>NPF<sub>2</sub>:NSiMe<sub>3</sub> (II) with SiCl<sub>4</sub> gave 86% Et<sub>2</sub>NPF<sub>2</sub>:NSiCl<sub>3</sub>, whereas use of PCl<sub>3</sub> gave 73% Et<sub>2</sub>NPF<sub>2</sub>:NPCl<sub>2</sub> and use of POCl<sub>3</sub> gave 62% Et<sub>2</sub>NPF<sub>2</sub>:NPOC<sub>12</sub>; addition of HF gave quant. Et<sub>2</sub>NPF<sub>3</sub>NHSiMe<sub>3</sub>.  
 IT     80156-02-1P  
       RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
       RACT (Reactant or reagent)  
       (preparation and reactions of)  
 RN     80156-02-1 HCAPLUS  
 CN     Phosphoramidimidic difluoride, N,N-diethyl-N'-(trimethylsilyl)- (CA  
       INDEX NAME)



IT     61701-84-6P    80156-03-2P    80156-04-3P  
       80156-05-4P    80156-06-5P    80156-07-6P  
       80156-08-7P    80156-09-8P  
       RL: SPN (Synthetic preparation); PREP (Preparation)  
       (preparation of)  
 RN     61701-84-6 HCAPLUS  
 CN     Phosphoramidimidic difluoride, N,N-dimethyl-N'-(trimethylsilyl)-  
       (CA INDEX NAME)



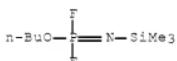
RN     80156-03-2 HCAPLUS  
 CN     Phosphonimidic difluoride, P-1-piperidinyl-N-(trimethylsilyl)- (CA  
       INDEX NAME)



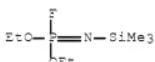
RN 80156-04-3 HCPLUS

CN Phosphorodifluorimidic acid, (trimethylsilyl)-, propyl ester (9CI)  
(CA INDEX NAME)

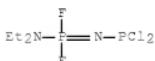
RN 80156-05-4 HCPLUS

CN Phosphorodifluorimidic acid, (trimethylsilyl)-, butyl ester (9CI)  
(CA INDEX NAME)

RN 80156-06-5 HCPLUS

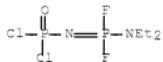
CN Phosphorofluorimidic acid, (trimethylsilyl)-, diethyl ester (9CI)  
(CA INDEX NAME)

RN 80156-07-6 HCPLUS

CN Phosphoramidimidic difluoride, N'-(dichlorophosphino)-N,N-diethyl-  
(CA INDEX NAME)

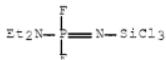
RN 80156-08-7 HCPLUS

CN Phosphoramicid dichloride, [(diethylamino)difluorophosphoranylidene]-(9CI) (CA INDEX NAME)



RN 80156-09-8 HCAPLUS

CN Phosphorimidic difluoride, N,N-diethyl-N'-(trichlorosilyl)-(CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 80156-02-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reactions of)

IT 61701-84-6P 80156-03-2P 80156-04-3P

80156-05-4P 80156-06-5P 80156-07-6P

80156-08-7P 80156-09-8P 80156-10-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

L26 ANSWER 18 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1981:71918 HCAPLUS Full-text

DOCUMENT NUMBER: 94:71918

ORIGINAL REFERENCE NO.: 94:11619a,11622a

TITLE: Conformational analysis of substituted phosphinylimidophosphoranes [X3PNP(O)X2] and (X3PNPX3)+ for X = hydrogen, fluorine, chlorine, methyl by the PCILo method

AUTHOR(S): Glidewell, Christopher

CORPORATE SOURCE: Chem. Dep., Univ. St. Andrews, St. Andrews/Fife, KY16 9ST, UK

SOURCE: Journal of Molecular Structure (1980), 69, 265-72

CODEN: JMOSB4; ISSN: 0022-2860

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Conformational energy maps were calculated, using the PCILo method, for X3PNP(O)X2 and (X3PNPX3)+ for X = H, F, Cl, CH3 as a function of the PNP angle. In H3PNP(O)H2 the global energy min. corresponds to the eclipsed conformation of the H3P and P(O)H2 fragments for all PNP angles, while in Cl3PNP(O)Cl2, the global min. always has Cl3P and P(O)Cl2 staggered: the global min. in F3PNP(O)F2 corresponds to eclipsed F3P and P(O)F2 fragments at low PNP angles and staggered fragments at high PNP angles: in (CH3)3PNP(O)CH3 the global min. conformation is very sensitive to ZPNP. Subordinate energy min. occur for all X3PNP(O)X2 species: in particular, there are two local

conformational min. for Cl3PNP(O)Cl2 at the optimum value of  $\angle$ PNP, and the relative energies of the three stable conformations are in good agreement with those derivable from the 31P NMR spectrum of this compound. In (X3PNPX3)+ the global min. is always close to the eclipsed conformation: free rotation of the X3P groups relative to one another is approached in each (X3PNPX3)+ ion as  $\angle$ PNP approaches 180°. The conformations of the transition states for the equilibrium between energy min. are reported with their relative energies, for X3PNP(O)X2 (X = H, F, Cl, CH3) and for (Cl3PNPCl3)+.

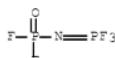
IT 22474-63-1 76554-10-4

RL: PROC (Process)

(conformational anal. of, by PCILo method)

RN 22474-63-1 HCPLUS

CN Phosphorimidic trifluoride, (difluorophosphinyl)- (8CI, 9CI) (CA INDEX NAME)



RN 76554-10-4 HCPLUS

CN Phosphorus(1+), trifluoro(phosphorimidic trifluoridato-N)-, (I-4)- (9CI) (CA INDEX NAME)

F3+P—N—PF3

CC 65-4 (General Physical Chemistry)

IT 13966-08-0 22474-63-1 34768-11-1 76554-08-0  
76554-10-4 76554-11-5 76554-12-6 76554-15-9

RL: PROC (Process)

(conformational anal. of, by PCILo method)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L26 ANSWER 19 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 1980:146680 HCPLUS Full-text

DOCUMENT NUMBER: 92:146680

ORIGINAL REFERENCE NO.: 92:23841a,23844a

TITLE: Prototropic isomerization of fluorophosphazo compounds to fluorophosphoranes

AUTHOR(S): Nesterova, L. I.; Gololobov, Yu. G.

CORPORATE SOURCE: USSR

SOURCE: Zhurnal Obrshchei Khimii (1979), 49(11), 2625-7

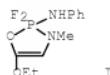
DOCUMENT TYPE: CODEN: ZOKHA4; ISSN: 0044-460X

LANGUAGE: Journal

OTHER SOURCE(S): Russian

CASREACT 92:146680

GI



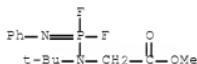
AB Treatment of F<sub>2</sub>PNMeCH<sub>2</sub>CO<sub>2</sub>Et with PhN<sub>3</sub> in C<sub>6</sub>H<sub>6</sub> at 80° gave 23% oxazaphospholene I. Similar reaction with F<sub>2</sub>PN(CMe<sub>3</sub>)CH<sub>2</sub>CO<sub>2</sub>Me gave 21% PhN:PF<sub>2</sub>NRCH<sub>2</sub>CO<sub>2</sub>Me (II; R = CMe<sub>3</sub>). I was formed by isomerization of II (R = Me). When R = CMe<sub>3</sub> II could not cyclize under the reaction conditions.

IT 73030-77-0P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 73030-77-0 HCPLUS

CN Glycine, N-(1,1-difluoro-N-phenylphosphinimyl)-N-(1,1-dimethylethyl)-, methyl ester (9CI) (CA INDEX NAME)



CC 28-11 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 25

IT 73030-75-8P 73030-77-0P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

L26 ANSWER 20 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1978:459932 HCPLUS [Full-text](#)

DOCUMENT NUMBER: 89:59932

ORIGINAL REFERENCE NO.: 89:9305a,9308a

TITLE: Structural isomerization of

(bis(trimethylsilyl)amino)phosphine oxides

AUTHOR(S): Neilson, Robert H.; Jacobs, Richard D.; Scheirman, Russell W.; Wilburn, James C.

CORPORATE SOURCE: Paul M. Gross Chem. Lab., Duke Univ., Durham, NC, USA

SOURCE: Inorganic Chemistry (1978), 17(7), 1880-2

CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

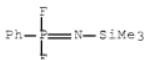
AB The reactions of lithium bis(trimethylsilyl)amide with phosphoryl chlorides ClP(O)X<sub>2</sub> (X = F, Cl, Ph) gave the N-silylated phosphinimines Me<sub>3</sub>SiN:PX<sub>2</sub>OSiMe<sub>3</sub> rather than the isomeric phosphine oxides (Me<sub>2</sub>Si)<sub>2</sub>NP(O)X<sub>2</sub>. Stereochemical arguments and <sup>13</sup>C NMR data provide support for the assignment of the imine structure.

IT 61701-83-5

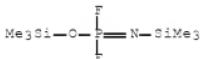
RL: PRP (Properties)  
(NMR of)

RN 61701-83-5 HCPLUS

CN Phosphonimidic difluoride, P-phenyl-N-(trimethylsilyl)- (CA INDEX NAME)



IT 66416-57-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 66416-57-7 HCPLUS  
 CN Phosphorodifluoridimidic acid, (trimethylsilyl)-, trimethylsilyl  
 ester (9CI) (CA INDEX NAME)



CC 29-6 (Organometallic and Organometalloidal Compounds)  
 IT 61701-83-5  
 RL: PRP (Properties)  
 (NMR of)  
 IT 41309-94-8P 66416-57-7P 66416-58-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 21 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1977:501818 HCPLUS Full-text  
 DOCUMENT NUMBER: 87:101818  
 ORIGINAL REFERENCE NO.: 87:16151a  
 TITLE: Conformational analysis of phosphazenes. A  
 force field for the calculation of the molecular  
 structures of halophosphazenes  
 AUTHOR(S): Boyd, Richard H.; Kesner, Laya  
 CORPORATE SOURCE: Dep. Mater. Sci. Eng., Univ. Utah, Salt Lake  
 City, UT, USA  
 SOURCE: Journal of the American Chemical Society (1977), 99(13), 4248-56  
 CODEN: JACSAT; ISSN: 0002-7863  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Phosphazenes (-N:PR<sub>2</sub>)<sub>n</sub> are a series of compds. that include rings of various sizes and conformations and linear high-mol.-weight polymers which the formal valence structure presents the possibility of  $\pi$ -electron delocalization. An attempt was made to see if phosphazene properties could be accounted for in terms of a conventional conformational model in which the mols. are subject to the influences of the energetics of bond twisting, bending, and stretching (and nonbonded interactions), but in which there are not further effects on bonding in various size mols. than from these sources (i.e., the individual bond energies do not depend on the size of the mol.). The geometries, energies, and vibrational frequencies of a number of cyclic perhalophosphazenes were satisfactorily accounted for by such a model. A force field for conformational calcns. on chloro- and fluorophosphazenes is

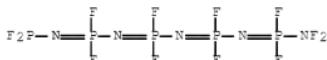
presented. Important and necessary features of the model include a 2-fold torsional potential with a low barrier (.apprx.1.4 kcal/mol) and a soft bending constant at the PNP valence angle (both absolutely and relative to the NPN angle).

IT 63722-42-9

RL: PRP (Properties)  
(conformation of, calcn. of)

RN 63722-42-9 HCAPLUS

CN Phosphoramidimidic difluoride,

N-[(difluoroamino)difluorophosphoranylidene]amino]difluorophosphor  
anylidene]-N'-[N-(difluorophosphino)-P,P-difluorophosphinimyl]-  
(9CI) (CA INDEX NAME)

CC 22-9 (Physical Organic Chemistry)

IT 940-71-6 2950-45-0 13596-41-3 14700-00-6 15599-91-4  
63722-41-8 63722-42-9

RL: PRP (Properties)

(conformation of, calcn. of)

OS.CITING REF COUNT: 12 THERE ARE 12 CAPLUS RECORDS THAT CITE THIS  
RECORD (13 CITINGS)

L26 ANSWER 22 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1977:406082 HCAPLUS Full-text

DOCUMENT NUMBER: 87:6082

ORIGINAL REFERENCE NO.: 87:989a,992a

TITLE: Reactions of lithium bis(trimethylsilyl) amide  
with some fluorophosphoranesAUTHOR(S): Wisman-Neilson, Patty; Neilson, Robert H.;  
Cowley, Alan H.CORPORATE SOURCE: Dep. Chem., Duke Univ., Durham, NC, USA  
SOURCE: Inorganic Chemistry (1977), 16(6),

1460-3

CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal  
LANGUAGE: English

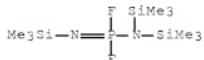
AB The reactions of various fluorophosphoranes with LiN(SiMe<sub>3</sub>)<sub>2</sub> proceeded with elimination of both LiF and Me<sub>3</sub>SiF to produce N-trimethylsilyl phosphinimines rather than bis(trimethylsilyl)aminophosphoranes. Thus, the reaction with PF<sub>5</sub> afforded (Me<sub>3</sub>Si)<sub>2</sub>N:PF<sub>2</sub>NSiMe<sub>3</sub> while the substituted fluorophosphoranes RPF<sub>4</sub> (R = Ph, NMe<sub>2</sub>, Me) and Ph<sub>2</sub>PF<sub>3</sub> gave rise to simpler N-trimethylsilylphosphinimines, FPR(R):NSiMe<sub>3</sub> (R = F, R<sub>1</sub> = Ph; R = F, R<sub>1</sub> = NMe<sub>2</sub>; R = F, R<sub>1</sub> = Me; R = R<sub>1</sub> = Ph). Under similar conditions, LiN(SiMe<sub>3</sub>)<sub>2</sub> did not react with (Me<sub>2</sub>N)<sub>2</sub>PF<sub>3</sub>. In the case of Me<sub>2</sub>PF<sub>3</sub> only decomposition products of the expected phosphinimine Me<sub>2</sub>PF:NSiMe<sub>3</sub> were detected. These p-fluoro-N-trimethylsilylphosphinimines undergo thermal decomposition, eliminating Me<sub>3</sub>SiF and forming cyclic phosphazenes.

IT 58972-02-4P 61701-83-5P 61701-84-6P  
61701-85-7PRL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

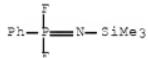
RN 58972-02-4 HCAPLUS

CN Phosphoramidimidic difluoride, tris(trimethylsilyl)- (9CI) (CA

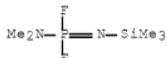
(INDEX NAME)



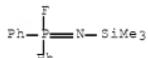
RN 61701-83-5 HCPLUS  
 CN Phosphorimidic difluoride, P-phenyl-N-(trimethylsilyl)- (CA INDEX  
 NAME)



RN 61701-84-6 HCPLUS  
 CN Phosphoramidic difluoride, N,N-dimethyl-N'-(trimethylsilyl)-  
 (CA INDEX NAME)



RN 61701-85-7 HCPLUS  
 CN Phosphorimidic fluoride, P,P-diphenyl-N-(trimethylsilyl)- (9CI) (CA  
 INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 33310-82-6P 58972-02-4P 61701-83-5P  
 61701-84-6P 61701-85-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS  
 RECORD (10 CITINGS)

L26 ANSWER 23 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1976:405796 HCPLUS Full-text  
 DOCUMENT NUMBER: 85:5796  
 ORIGINAL REFERENCE NO.: 85:935a, 938a  
 TITLE: Derivatives of perfluoroalkylsulfonic acids.

II. Oxidative imination of phosphorus(III) compounds by nitrogenous derivatives of trifluoromethanesulfonic acid

AUTHOR(S): Radchenko, O. A.; Nazaretyan, V. P.; Yagupol'skii, L. M.

CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR

SOURCE: Zhurnal Obshchei Khimii (1976), 46(3), 565-8

DOCUMENT TYPE: Journal

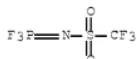
LANGUAGE: Russian

AB The quantitative reaction of F<sub>3</sub>CSO<sub>2</sub>N<sub>3</sub> with (RO)<sub>3</sub>P gave F<sub>3</sub>CSO<sub>2</sub>N:P(OR)<sub>3</sub> (R = Ph, hexyl), with PhPCl<sub>2</sub> gave F<sub>3</sub>CSO<sub>2</sub>N:PCl<sub>2</sub>Ph, and with Ph<sub>3</sub>Sb gave F<sub>3</sub>CSO<sub>2</sub>N:SbPh<sub>3</sub>. Similarly, the reaction of F<sub>3</sub>CSO<sub>2</sub>NNaCl with PX<sub>3</sub> gave, resp., 89% and 31% F<sub>3</sub>CSO<sub>2</sub>N:PX<sub>3</sub> (X = Cl, Br). F<sub>3</sub>CSO<sub>2</sub>NNaCl and F<sub>3</sub>PCl<sub>2</sub> gave 51% F<sub>3</sub>CSO<sub>2</sub>N:PF<sub>3</sub>.

IT 59360-43-9P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 59360-43-9 HCAPLUS

CN Methanesulfonamide, 1,1,1-trifluoro-N-(trifluorophosphoranylidene)-  
(CA INDEX NAME)

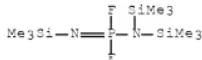


CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 30227-07-7P 31646-22-7P 59360-41-7P 59360-42-8P  
 59360-43-9P 59360-44-0P 59360-45-1P 59360-46-2P  
 59360-47-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

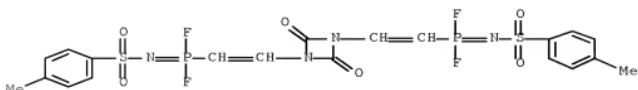
L26 ANSWER 24 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1976:164942 HCAPLUS Full-text  
 DOCUMENT NUMBER: 84:164942  
 ORIGINAL REFERENCE NO.: 84:26787a,26790a  
 TITLE: Reaction of an N-silylated iminophosphine (phosphorus(III)azene) with halogen compounds of elements of main Groups IV and VII  
 AUTHOR(S): Niecke, Edgar; Bitter, Wolfhelm  
 CORPORATE SOURCE: Anorg.-Chem. Inst., Univ. Goettingen, Goettingen, Fed. Rep. Ger.  
 SOURCE: Chemische Berichte (1976), 109(2), 415-25  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 GI For diagram(s), see printed CA Issue.  
 AB The reaction of (Me<sub>3</sub>Si)<sub>2</sub>NPCl<sub>3</sub> (I) with RX gave (Me<sub>3</sub>Si)<sub>2</sub>NPR(:NSiMe<sub>3</sub>)X (X, R, given): Cl, CCl<sub>3</sub>; Br, Me<sub>2</sub>CH; I, Et. The reaction of I with SiX<sub>4</sub> gave II (X = Cl, Br). Similarly, I and GeCl<sub>4</sub> gave (Me<sub>3</sub>Si)<sub>2</sub>NPCl<sub>3</sub>(SiMe<sub>3</sub>)GeCl<sub>3</sub>, which cyclized to give III. The reaction of I with SnCl<sub>4</sub> gave (Me<sub>3</sub>Si)<sub>2</sub>NP(:NSiMe<sub>3</sub>)Cl<sub>2</sub>

and SnCl<sub>2</sub>. Halogenation of I gave, quant., (Me<sub>3</sub>Si)<sub>2</sub>NP(:NSiMe<sub>3</sub>)X<sub>2</sub> [X = Cl, F, Br (IV), I (V)]. Decomposition of IV and V gave VI (X = Br, I).  
 IT 58972-92-49  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 58972-02-4 HCPLUS  
 CN Phosphoramidimidic difluoride, tris(trimethylsilyl)- (9CI) (CA INDEX NAME)



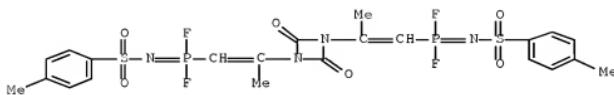
CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 50732-23-5P 58971-93-0P 58971-94-1P 58971-95-2P 58971-96-3P  
 58971-97-4P 58971-98-5P 58971-99-6P 58972-00-2P 58972-01-3P  
 58972-02-4P 58972-03-5P 58972-04-6P 58972-05-7P  
 58972-06-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (11 CITINGS)

L26 ANSWER 25 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1975:86342 HCPLUS Full-text  
 DOCUMENT NUMBER: 82:86342  
 ORIGINAL REFERENCE NO.: 82:13803a,13806a  
 TITLE: 2-(Isocyanatoalkenyl)tetrafluorophosphoranes  
 AUTHOR(S): Markovskii, L. N.; Stukalo, E. A.  
 CORPORATE SOURCE: Inst. Org. Chem., Kiev, USSR  
 SOURCE: Phosphorus and the Related Group V Elements (1974), 4, 237-40  
 CODEN: PHUSBV; ISSN: 0369-9722  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The fluorination of Cl<sub>2</sub>P(O)CH:CRN:CCl<sub>2</sub> I (R = H, Me) with NaF gave F<sub>2</sub>P(O)CH:CRN:CCl<sub>2</sub> III, which are converted by hexamethyl-disiloxane or hexamethyldisilithiane to F<sub>2</sub>P(O)CH:CR1 [R1 = NCO (III), NCS]. The reaction of III with SF<sub>4</sub> yields F4PCH:CRNCO IV. Treatment of I or II with SbF<sub>3</sub> produces F2P(O)CH:CRN:CF<sub>2</sub>, which during the reaction isomerizes to IV.  
 IT 55422-32-7P 55422-33-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 55422-32-7 HCPLUS  
 CN Phosphonimidic difluoride, P,P'-(2,4-dioxo-1,3-diazetidine-1,3-diy)di-2,1-ethenediyl]bis[N-(4-methylphenyl)sulfonyl]- (9CI) (CA INDEX NAME)



RN 55422-33-8 HCAPLUS

CN Phosphonimidic difluoride, P,P'-(2,4-dioxo-1,3-diazetidine-1,3-diyl)bis(2-methyl-2,1-ethenediyil)bis[N-(4-methylphenyl)sulfonyl]-(9CI) (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 54943-85-0P 55422-21-4P 55422-24-7P 55422-25-8P 55422-26-9P

55422-27-0P 55422-28-1P 55422-29-2P 55422-30-5P 55422-31-6P

55422-32-7P 55422-33-8P 55474-10-7P

55500-49-7P 55523-01-8P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS  
RECORD (2 CITINGS)

L26 ANSWER 26 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1972:434644 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 77:34644

ORIGINAL REFERENCE NO.: 77:5779a,5782a

TITLE: Solvolysis of halo phosphazenes

AUTHOR(S): Roessky, H. W.; Kuhtz, B. H.; Grimm, L. F.

CORPORATE SOURCE: Inst. Anorg. Chem. I, Univ. Frankfurt,  
Frankfurt/M., Fed. Rep. Ger.SOURCE: Zeitschrift fuer Anorganische und Allgemeine  
Chemie (1972), 389(2), 167-76  
CODEN: ZAACAB; ISSN: 0044-2313

DOCUMENT TYPE: Journal

LANGUAGE: German

AB SPX2N:PX3 (X = F and/or Cl) reacted with MeOH or EtOH with cleavage of a P-Cl bond to give 9 S-alkyl esters RSFX2:N(=O)X2. The mechanism of the rearrangement of O-alkyl to S-alkyl esters was discussed and an unambiguous structural assignment was made based on ir or NMR investigations. Strong carboxylic acids reacted to give SPX2NHC(=O)X2, whereas weak carboxylic acids e.g. AcOH yielded SPX2NHCO(=O)Me derivs. These compds. were also prepared from P amides, SPX2NH2, and AcCl.

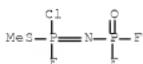
IT 33926-65-7P 33926-67-9P 37632-45-4P

37632-46-5P 37632-48-7P 37758-23-9P

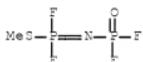
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 33926-65-7 HCAPLUS

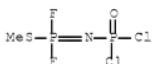
CN Phosphorochloridofluoridimidothioic acid, (difluorophosphinyl)-,  
methyl ester (8CI, 9CI) (CA INDEX NAME)



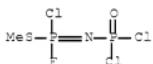
RN 33926-67-9 HCPLUS  
CN Phosphodifluoridimidothioic acid, (difluorophosphinyl)-, methyl ester (8CI, 9CI) (CA INDEX NAME)



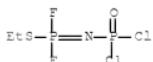
RN 37632-45-4 HCPLUS  
CN Phosphordifluoridimidothioic acid, (dichlorophosphinyl)-, methyl ester (9CI) (CA INDEX NAME)



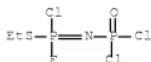
RN 37632-46-5 HCPLUS  
CN Phosphorochloridofluoridimidothioic acid, (dichlorophosphinyl)-, methyl ester (9CI) (CA INDEX NAME)



RN 37632-48-7 HCAPLUS  
CN Phosphorodifluoridomidothiocic acid, (dichlorophosphinyl)-, ethyl ester (9CI) (CA INDEX NAME)



RN 37758-23-9 HCPLUS  
CN Phosphorochloridofluoridimidothioic acid, (dichlorophosphinyl)-, ethyl ester (9CI) (CA INDEX NAME)



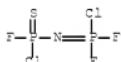
IT 24341-15-9 25518-96-1 25518-97-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (solvolysis of)  
 RN 24341-15-9 HCAPLUS  
 CN Phosphorimidic chloride difluoride, (dichlorophosphinothioyl)- (8CI,  
 9CI) (CA INDEX NAME)



RN 25518-96-1 HCAPLUS  
 CN Phosphorimidic chloride difluoride, (difluorophosphinothioyl)- (8CI,  
 9CI) (CA INDEX NAME)



RN 25518-97-2 HCAPLUS  
 CN Phosphorimidic chloride difluoride, (chlorofluorophosphinothioyl)-  
 (8CI, 9CI) (CA INDEX NAME)

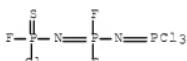


CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 33926-65-7P 33926-66-8P 33926-67-9P  
 37632-45-4P 37632-46-5P 37632-47-6P  
 37632-48-7P 37632-49-8P 37632-50-1P 37632-51-2P  
 37632-52-3P 37758-23-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 14809-12-2 21207-74-9 21207-75-0 21207-76-1  
 24341-15-9 25518-96-1 25518-97-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (solvolysis of)

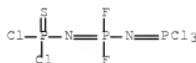
L26 ANSWER 27 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1971:547336 HCAPLUS Full-text  
 DOCUMENT NUMBER: 75:147336  
 ORIGINAL REFERENCE NO.: 75:23255a,23258a  
 TITLE: Phosphorous compounds. 64. Preparation and characterization of linear diphosphazenes  
 AUTHOR(S): Roesky, H. W.; Grimm, L. F.; Niecke, E.  
 CORPORATE SOURCE: Anorg.-Chem. Inst., Univ. Goettingen, Goettingen, Fed. Rep. Ger.  
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie (1971), 385(1-2), 102-12  
 CODEN: ZAACAB; ISSN: 0044-2313  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 AB S:P(XZ)N:PX2 (X, Z = F, Cl)) reacted with (Me<sub>3</sub>Si)2NH to give S:P(XZ)N:PCl2NHSiMe<sub>3</sub> and S:PCl2N:PFClNHSiMe<sub>3</sub>. These Si derivative reacted with PCl<sub>5</sub> to give S:PCl2N:F(XZ)N:PCl<sub>3</sub> and S:P(XZ)N:PCl2N:PCl<sub>3</sub>. S:PF2N:PF2N:PFCl<sub>2</sub> and S:PF2N:PFClN:PFCl<sub>2</sub> were formed by dismutation. S:PCl2N:PF2NH<sub>2</sub> reacted with PF3Cl<sub>2</sub> to give S:PCl2N:PF2N:PF<sub>3</sub>. The compds. were characterized by ir, NMR, and mass spectra.  
 IT 28316-00-9P 28316-01-0P 34118-55-3P  
 34118-59-7P 34118-60-0P 34118-61-1P  
 34118-62-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 28316-00-9 HCAPLUS  
 CN Phosphorimidic trichloride, [N-(difluorophosphinothioyl)-P,P-difluorophosphinimyl]- (8CI) (CA INDEX NAME)



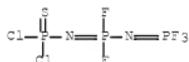
RN 28316-01-0 HCAPLUS  
 CN Phosphorimidic trichloride, [N-(chlorofluorophosphinothioyl)-P,P-difluorophosphinimyl]- (8CI) (CA INDEX NAME)



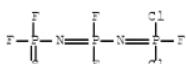
RN 34118-55-3 HCAPLUS  
 CN Phosphorimidic trichloride, [N-(dichlorophosphinothioyl)-P,P-difluorophosphinimyl]- (8CI) (CA INDEX NAME)



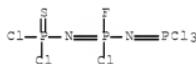
RN 34118-59-7 HCPLUS  
 CN Phosphorimidic trifluoride, [N-(dichlorophosphinothioyl)-P,P-difluorophosphinimyl]- (8CI) (CA INDEX NAME)



RN 34118-60-0 HCPLUS  
 CN Phosphorimidic dichloride fluoride, [N-(difluorophosphinothioyl)-P,P-difluorophosphinimyl]- (8CI) (CA INDEX NAME)



RN 34118-61-1 HCPLUS  
 CN Phosphorimidic trichloride, [P-chloro-N-(dichlorophosphinothioyl)-P-fluorophosphinimyl]- (8CI) (CA INDEX NAME)



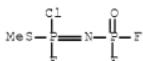
RN 34118-62-2 HCPLUS  
 CN Phosphorimidic chloride difluoride, [N-(difluorophosphinothioyl)-P,P-difluorophosphinimyl]- (8CI) (CA INDEX NAME)



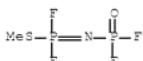
IT 17661-22-2P 28316-00-9P 28316-01-0P  
 34118-49-5P 34118-50-8P 34118-51-9P 34118-52-0P  
 34118-55-3P 34118-56-4P 34118-57-5P  
 34118-59-7P 34118-60-0P 34118-61-1P  
 34118-62-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

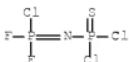
L26 ANSWER 28 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1971:536659 HCPLUS Full-text  
 DOCUMENT NUMBER: 75:136659  
 ORIGINAL REFERENCE NO.: 75:21553a,21556a  
 TITLE: Formation of an S-methyl derivative from the  
 reaction of methanol with compounds of the type  
 S:P<sub>X</sub>N:PF<sub>2</sub>Cl  
 AUTHOR(S): Roesky, H. W.; Grimm, L. F.  
 CORPORATE SOURCE: Anorg.-Chem. Inst., Univ. Goettingen,  
 Goettingen, Fed. Rep. Ger.  
 SOURCE: Journal of the Chemical Society [Section] D:  
 Chemical Communications (1971), (17),  
 998  
 CODEN: CCJDAO; ISSN: 0577-6171  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB S:P<sub>X</sub>N:PF<sub>2</sub>Cl (X = F or Cl) reacted with MeOH to give MeSP<sub>X</sub>:NPF<sub>2</sub>O, which was  
 characterized by ir and NMR spectra.  
 IT 33926-65-7P 33926-67-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 33926-65-7 HCPLUS  
 CN Phosphorodifluoridimidothioic acid, (difluorophosphinyl)-,  
 methyl ester (8CI, 9CI) (CA INDEX NAME)



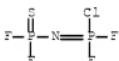
RN 33926-67-9 HCPLUS  
 CN Phosphorodifluoridimidothioic acid, (difluorophosphinyl)-, methyl ester (8CI, 9CI) (CA INDEX NAME)



IT 24341-15-9 25518-96-1 25518-97-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with methanol)  
 RN 24341-15-9 HCPLUS  
 CN Phosphorimidic chloride difluoride, (dichlorophosphinothioyl)- (8CI,  
 9CI) (CA INDEX NAME)



RN 25518-96-1 HCAPLUS  
 CN Phosphorimidic chloride difluoride, (difluorophosphinothioyl)- (8CI, 9CI) (CA INDEX NAME)



RN 25518-97-2 HCAPLUS  
 CN Phosphorimidic chloride difluoride, (chlorofluorophosphinothioyl)- (8CI, 9CI) (CA INDEX NAME)



CC 78 (Inorganic Chemicals and Reactions)  
 IT 33926-65-7P 33926-66-8P 33926-67-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 24341-15-9 25518-96-1 25518-97-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with methanol)

L26 ANSWER 29 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1970:455568 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 73:55568  
 ORIGINAL REFERENCE NO.: 73:9129a,9132a  
 TITLE: Phosphorus compounds. 52. Splitting reactions  
 at the silicon-nitrogen bond with  
 N-trihalophosphoranylidene compounds  
 AUTHOR(S): Roesky, Herbert W.; Boewing, Walter G.  
 CORPORATE SOURCE: Anorg.-Chem. Inst., Univ. Goettingen,  
 Goettingen, Fed. Rep. Ger.  
 SOURCE: Chemische Berichte (1970), 103(7),  
 2281-7  
 CODEN: CHBEAM; ISSN: 0009-2940  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 AB RN:PX3 reacted with Me3SiR1 to give RN:PXnR13-n (I) (where R = FSO<sub>2</sub>, ClSO<sub>2</sub>, or P3N3F5; X = F or Cl; R1 = NMe<sub>2</sub> or NCS; and n = 2 or 1) with 12-17% yield for

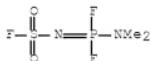
R1 = NCS and 60-91% yield for R1 = NMe<sub>2</sub>. The properties, NMR, ir, and mass spectra are reported for I.

IT 28924-16-5P 28924-17-6P 28925-29-3P  
28925-30-6P 28925-31-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

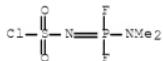
RN 28924-16-5 HCAPLUS

CN Sulfamoyl fluoride, N-[(dimethylamino)difluorophosphoranylidene]-  
(CA INDEX NAME)



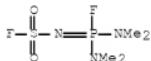
RN 28924-17-6 HCAPLUS

CN Sulfamoyl chloride, N-[(dimethylamino)difluorophosphoranylidene]-  
(CA INDEX NAME)



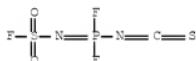
RN 28925-29-3 HCAPLUS

CN Sulfamoyl fluoride, N-[bis(dimethylamino)fluorophosphorylidene]-  
(CA INDEX NAME)



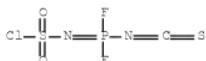
RN 28925-30-6 HCAPLUS

CN Sulfamoyl fluoride, N-(difluoroisothiocyanatophosphoranylidene)-  
(CA INDEX NAME)



RN 28925-31-7 HCAPLUS

CN Sulfamoyl chloride, N-(difluoroisothiocyanatophosphoranylidene)-  
(CA INDEX NAME)



CC 23 (Aliphatic Compounds)  
 IT 28924-16-5P 28924-17-6P 28925-29-3P  
 28925-30-6P 28925-31-7P 28925-32-8P  
 28925-33-9P 28925-34-0P 28925-35-1P 28981-20-6P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 30 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1970:441397 HCPLUS Full-text  
 DOCUMENT NUMBER: 73:41397  
 ORIGINAL REFERENCE NO.: 73:6823a,6826a  
 TITLE: Phosphorus compounds. 50. Reactions with  
 N-halophosphoranylidene thiophosphoryl dihalide  
 amides  
 AUTHOR(S): Roesky, Herbert W.; Grimm, Ludwig F.  
 CORPORATE SOURCE: Anorg.-Chem. Inst., Univ. Goettingen,  
 Goettingen, Fed. Rep. Ger.  
 SOURCE: Chemische Berichte (1970), 103(6),  
 1664-73  
 CODEN: CHBEAM; ISSN: 0009-2940  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German

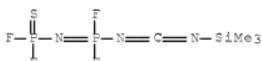
AB Reaction of S:PX2N:PF3 (where X = Cl or F) with Me3SiNMe2 gave 65-72%  
 S:PX2N:PF2NMe2 (I). I (X = F) reacted with Me3SiNR2 (where R = Me or Et) to  
 give 40-55% S:PF2N:PF(NMe2)(NR2). Similarly prepared were S:PF2N:PF2R1 (where  
 R1 = N:CN:SiMe3 or NCS). The substitutions occurred only at the PF3 group and  
 isomeric compds. were not formed. S:PCl2NH2 and excess PF3Cl2 gave 10%  
 S:PCl2NPFCl2. S:PF2N:PF2Br (25%) and 28% S:PFC1N:PF2Br were formed by the  
 cleavage of the corresponding I with HBr. The 1H-, 19F-NMR, ir, and mass  
 spectra of the compds. prepared were reported and discussed.

IT 27351-98-0P 27351-99-1P 27352-02-9P  
 27352-03-0P 27352-04-1P 27352-05-2P  
 27352-06-3P 27352-07-4P 27352-09-6P  
 27352-10-9P 27352-11-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

RN 27351-98-0 HCPLUS

CN Phosphoramidothioic difluoride,  
 [difluoro[[trimethylsilyl]imidocarbonyl]amino]phosphoranylidene]-  
 (8CI) (CA INDEX NAME)



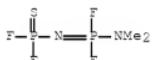
RN 27351-99-1 HCPLUS

CN Phosphoramidothioic difluoride,  
 [difluoro[methyl(trimethylsilyl)amino]phosphoranylidene]- (8CI) (CA

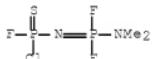
(CA INDEX NAME)



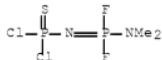
RN 27352-02-9 HCAPLUS

CN Phosphoramidothioic difluoride,  
[(dimethylamino)difluorophosphoranylidene]- (8CI) (CA INDEX NAME)

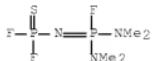
RN 27352-03-0 HCAPLUS

CN Phosphoramidimidic difluoride,  
N'-(chlorofluorophosphinothioyl)-N,N-dimethyl- (CA INDEX NAME)

RN 27352-04-1 HCAPLUS

CN Phosphoramidothioic dichloride,  
[(dimethylamino)difluorophosphoranylidene]- (8CI) (CA INDEX NAME)

RN 27352-05-2 HCAPLUS

CN Phosphoramidothioic difluoride,  
[bis(dimethylamino)fluorophosphoranylidene]- (8CI) (CA INDEX NAME)

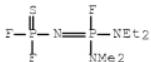
November 16, 2009

10/540,558

67

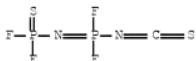
RN 27352-06-3 HCPLUS

CN Phosphoramidothioic difluoride,  
[(diethylamino)(dimethylamino)fluorophosphoranylidene]- (8CI) (CA  
INDEX NAME)



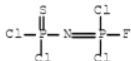
RN 27352-07-4 HCPLUS

CN Phosphoramidothiocic difluoride,  
(difluoroisothiocyanatophosphoranylidene)- (8CI) (CA INDEX NAME)



RN 27352-09-6 HCPLUS

CN Phosphorimidic dichloride fluoride, (dichlorophosphinothioyl)- (8CI)  
(CA INDEX NAME)



RN 27352-10-9 HCPLUS

CN Phosphorimidic bromide difluoride, (difluorophosphinothioyl)- (8CI)  
(CA INDEX NAME)



RN 27352-11-0 HCPLUS

CN Phosphorimidic bromide difluoride, (chlorofluorophosphinothioyl)-  
(8CI) (CA INDEX NAME)

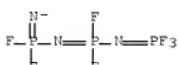


CC 78 (Inorganic Chemicals and Reactions)  
 IT 27351-98-0P 27351-99-1P 27352-00-7P  
 27352-02-9P 27352-03-0P 27352-04-1P  
 27352-05-2P 27352-06-3P 27352-07-4P  
 27352-08-5P 27352-09-6P 27352-10-9P  
 27352-11-0P 27375-32-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L26 ANSWER 31 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1970:420978 HCAPLUS Full-text  
 DOCUMENT NUMBER: 73:20978  
 ORIGINAL REFERENCE NO.: 73:3479a,3482a  
 TITLE: New anionic derivative of P3N3F6  
 AUTHOR(S): Douglas, W. M.; Cooke, M.; Lustig, M.; Ruff, J. K.  
 CORPORATE SOURCE: Dep. of Chem., Univ. of Georgia, Athens, GA, USA  
 SOURCE: Inorganic and Nuclear Chemistry Letters (1970), 6(4), 409-11  
 CODEN: INUCAF; ISSN: 0020-1650  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI For diagram(s), see printed CA Issue.  
 AB CsF reacts with the cyclic phosphonitrile fluoride trimer, P3N3F6, in anhydrous MeCN to give CsP3N3F7. Possible structures for the anion P3N3F7- are linear PF3:NPF2:N- or cyclic (I).  
 IT 27321-60-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 27321-60-4 HCAPLUS  
 CN Phosphorimidic trifluoride, [N-(P,P-difluorophosphinimyl)-P,P-difluorophosphinimyl]-, ion(1-), cesium (8CI) (CA INDEX NAME)

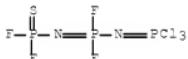


● Cs+

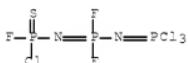
CC 78 (Inorganic Chemicals and Reactions)  
 IT 27321-60-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 32 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1970:128270 HCPLUS Full-text  
 DOCUMENT NUMBER: 72:128270  
 ORIGINAL REFERENCE NO.: 72:22995a,22998a  
 TITLE: Phosphorus compounds. 51. Method for preparation of compounds of the type R-(N=PX2)x-N=PCl<sub>3</sub>  
 AUTHOR(S): Roessky, Herbert W.; Grimm, Ludwig F.  
 CORPORATE SOURCE: Anorg.-Chem. Inst., Univ. Goettingen, Goettingen, Fed. Rep. Ger.  
 SOURCE: Angewandte Chemie, International Edition in English (1970), 9(3), 244-5  
 CODEN: ACIEAY; ISSN: 0570-0833  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB XP(:S)FN:PF2NHSiMe3 were treated with PCl<sub>5</sub> at 60-80° to give XP(:S)FN:PF2N:PCl<sub>3</sub> (I) (where X = F, 25% yield; or X = Cl, 45% yield). I will in turn add another PN:P-linkage on treatment with HN(SiMe<sub>3</sub>)<sub>2</sub> and PCl<sub>5</sub>.  
 IT 28316-00-9P 28316-01-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 28316-00-9 HCPLUS  
 CN Phosphorimidic trichloride, [N-(difluorophosphinothioyl)-P,P-difluorophosphinimyl]- (8CI) (CA INDEX NAME)



RN 28316-01-0 HCPLUS  
 CN Phosphorimidic trichloride, [N-(chlorofluorophosphinothioyl)-P,P-difluorophosphinimyl]- (8CI) (CA INDEX NAME)



CC 78 (Inorganic Chemicals and Reactions)  
 IT 28316-00-9P 28316-01-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 33 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1970:8805 HCPLUS Full-text  
 DOCUMENT NUMBER: 72:8805  
 ORIGINAL REFERENCE NO.: 72:1589a,1592a  
 TITLE: Phosphorus compounds. XL. Substitution reactions of phosphorus and sulfur amides  
 AUTHOR(S): Roessky, Herbert W.; Boewing, Walter G.  
 CORPORATE SOURCE: Anorg.-Chem. Inst., Univ. Goettingen, Goettingen, Fed. Rep. Ger.  
 SOURCE: Zeitschrift fuer Naturforschung, Teil B:

Anorganische Chemie, Organische Chemie,  
 Biochemie, Biophysik, Biologie (1969),  
 24(10), 1250-3  
 CODEN: ZENBAX; ISSN: 0044-3174

DOCUMENT TYPE: Journal  
 LANGUAGE: German

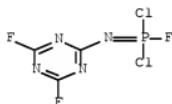
AB MeP(S)FNH2 (37 g) and 20.2 g Et3N in 300 ml Et2O were treated with 21.7 g Me3SiCl at room temperature to give 83% MeP(S)FNHSiMe3, b0.01 33°; similarly prepared was 75% EtP(S)FNHSiMe3, b0.01 42°. EtP(S)FNH2 (65 g) was added dropwise to a suspension of 150 g PC15 in 100 ml CC14 at room temperature to give 22% EtP(S)FNPC13. Partial ammonolysis of PhPSF2 at -80° gave 16% PhP(S)FNH2, b0.01 110°. 2,4,4,6-Pentafluoro-2-amino-2,2,4,4,6,6-hexahydro-1,3,5,2,4,6-triazatatriphosphorine (P3N3F5NH2) (50 g) was condensed with a 2-fold excess of PF3Cl2 at -80° to give 96% P3N3F5NPF3, b28 37°. Similarly 2-amino-4,6-difluoro-s-triazine and PF3Cl2 give 24% 2-(N-dichlorofluorophosphanylideneimino)-4,6-difluoro-s-triazine, b0.01 43°. FSO2NH2 was added dropwise to PF3Cl2 at -80° to give 65% FSO2NPF3, b17 30°, which was treated with PF3Cl2 at 50° to give 35% FSO2NPF2Cl, b13 46°. The compds. were characterized by ir, NMR, and mass spectra.

IT 24623-74-3P 24623-75-4P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

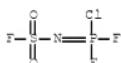
RN 24623-74-3 HCPLUS

CN Phosphorimidic dichloride fluoride, (4,6-difluoro-s-triazin-2-yl)-  
 (8CI) (CA INDEX NAME)



RN 24623-75-4 HCPLUS

CN Sulfamoyl fluoride, N-(chlorodifluorophosphoranylidene)- (CA INDEX NAME)



CC 78 (Inorganic Chemicals and Reactions)

IT 24623-70-9P 24623-71-0P 24623-72-1P 24623-73-2P  
 24623-74-3P 24623-75-4P 27830-53-1P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 34 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN

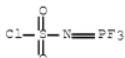
ACCESSION NUMBER: 1969:497887 HCPLUS Full-text

DOCUMENT NUMBER: 71:97887

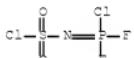
ORIGINAL REFERENCE NO.: 71:18235a,18238a

TITLE: Preparation and characterization of ClSO2N:PF3

and ClSO<sub>2</sub>N:PF<sub>2</sub>C<sub>1</sub>  
 AUTHOR(S): Roesky, Herbert W.; Grosse Boening, W.  
 CORPORATE SOURCE: Univ. Goettingen, Goettingen, Fed. Rep. Ger.  
 SOURCE: Inorganic and Nuclear Chemistry Letters (1969), 5(7), 597-9  
 CODEN: INUCAF; ISSN: 0020-1650  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 AB ClSO<sub>2</sub>NH<sub>2</sub> reacts with PF<sub>3</sub>C<sub>12</sub> in CC<sub>14</sub> at room temperature to give ClSO<sub>2</sub>N:PF<sub>3</sub>, 95% yield. Excess PF<sub>3</sub>C<sub>12</sub> reacts with ClSO<sub>2</sub>NPF<sub>3</sub> at 50° to give ClSO<sub>2</sub>N:PF<sub>2</sub>C<sub>1</sub>, 23% yield. The compds. are colorless liq., fume strongly in air, and are very reactive with traces of moisture.  
 IT 25417-76-9P 25417-77-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 25417-76-9 HCPLUS  
 CN Sulfamoyl chloride, N-(trifluorophosphoranylidene)- (CA INDEX NAME)



RN 25417-77-0 HCPLUS  
 CN Sulfamoyl chloride, N-(chlorodifluorophosphoranylidene)- (CA INDEX NAME)



CC 78 (Inorganic Chemicals and Reactions)  
 IT 25417-76-9P 25417-77-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 L26 ANSWER 35 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1969:475980 HCPLUS Full-text  
 DOCUMENT NUMBER: 71:75980  
 ORIGINAL REFERENCE NO.: 71:14081a,14084a  
 TITLE: Nuclear magnetic resonance of phosphorus compounds. XXI. Phosphorus-fluorine coupling constants in compounds with tetra-coordinated phosphorus  
 AUTHOR(S): Fluck, Ekkehard; Heckmann, Gernot  
 CORPORATE SOURCE: Univ. Stuttgart, Stuttgart, Fed. Rep. Ger.  
 SOURCE: Zeitschrift fuer Naturforschung, Teil B:  
 Anorganische Chemie, Organische Chemie, Biochemie, Biophysik, Biologie (1969), 24(8), 953-9  
 CODEN: ZENBAX; ISSN: 0044-3174  
 DOCUMENT TYPE: Journal

## LANGUAGE:

German

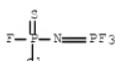
AB The  $^{31}\text{P}$  and  $^{19}\text{F}$  N.-M.R. spectra of a series of F-containing compds. with a PN:P framework are presented as well as P-F coupling data for compds. containing tetra-coordinated P. The compds. studied in detail are:  $\text{Cl}_2\text{P}(\text{S}): \text{PF}_2\text{Cl}$ ,  $\text{X}_2\text{P}(\text{S})\text{N}: \text{PF}_3$  ( $\text{X} = \text{Cl, F}$ ),  $\text{ClFP}(\text{S})\text{N}: \text{PF}_3$ ,  $\text{ClFP}(\text{S})\text{N}: \text{PCl}_2\text{Ph}$ ,  $\text{ClFP}(\text{S})\text{N}: \text{PClPh}_2$ ,  $\text{ClFP}(\text{S})\text{NHSiMe}_3$ , and  $\text{F}_2\text{P}(\text{S})\text{NHSiMe}_3$ . The relation between the size of the coupling constant and the electronegativity of the atoms bound to a given P atom is discussed.

IT 22341-49-7 22341-50-0 24341-15-9  
24341-16-0

RL: PRP (Properties)  
(nuclear magnetic resonance of)

RN 22341-49-7 HCPLUS

CN Phosphorimidic trifluoride, (chlorofluorophosphinothioyl)- (8CI)  
(CA INDEX NAME)



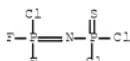
RN 22341-50-0 HCPLUS

CN Phosphorimidic trifluoride, (difluorophosphinothioyl)- (8CI, 9CI)  
(CA INDEX NAME)



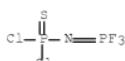
RN 24341-15-9 HCPLUS

CN Phosphorimidic chloride difluoride, (dichlorophosphinothioyl)- (8CI, 9CI) (CA INDEX NAME)



RN 24341-16-0 HCPLUS

CN Phosphorimidic trifluoride, (dichlorophosphinothioyl)- (8CI) (CA INDEX NAME)



CC 73 (Spectra and Other Optical Properties)

IT 22341-49-7 22341-50-0 23755-68-2

23755-70-6 24341-15-9 24341-16-0

24341-19-3, Phosphoramidothiocic chloride fluoride,  
(dichlorophenylphosphoranylidene)- 24341-20-6

RL: PRP (Properties)

(nuclear magnetic resonance of)

L26 ANSWER 36 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1969:456191 HCAPLUS Full-text

DOCUMENT NUMBER: 71:56191

ORIGINAL REFERENCE NO.: 71:10341a,10344a

TITLE: Phosphorus compounds. XXVIII. Preparation and characterization of thiophosphoryl compounds containing a phosphorus-nitrogen double bond

AUTHOR(S): Roesky, Herbert W.; Grimm, Ludwig F.

CORPORATE SOURCE: Univ. Goettingen, Goettingen, Fed. Rep. Ger.

SOURCE: Chemische Berichte (1969), 102(7),  
2319-29

CODEN: CHBEAM; ISSN: 0009-2940

DOCUMENT TYPE: Journal

LANGUAGE: German

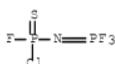
AB The reaction of SPFClNH<sub>2</sub> with PF<sub>3</sub>C<sub>12</sub> gave SPFClN:PF<sub>2</sub>Cl. Similarly were prepared 14 SPX<sub>2</sub>N:PY<sub>3</sub> (X = F or Cl; Y = F, Cl, or Ph). The reaction of SPFBr<sub>2</sub> with NH<sub>3</sub> in Et<sub>2</sub>O at -80° gave SPFBrNH<sub>2</sub>. The treatment of SPCl<sub>2</sub>NH<sub>2</sub> with SbF<sub>3</sub> in the presence of SbCl<sub>5</sub> gave SPF<sub>2</sub>NH<sub>2</sub>. Mass, ir, and 1H- and 19F-N.M.R. spectra are given.

IT 22341-49-7P 22341-50-0P, Phosphorimidic trifluoride, (difluorophosphinothioyl)- 24341-15-9P  
24341-16-0P 25518-96-1P 25518-97-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

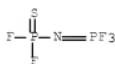
RN 22341-49-7 HCAPLUS

CN Phosphorimidic trifluoride, (chlorofluorophosphinothioyl)- (8CI)  
(CA INDEX NAME)



RN 22341-50-0 HCAPLUS

CN Phosphorimidic trifluoride, (difluorophosphinothioyl)- (8CI, 9CI)  
(CA INDEX NAME)



RN 24341-15-9 HCAPLUS

CN Phosphorimidic chloride difluoride, (dichlorophosphinothioyl)- (8CI,

9CI) (CA INDEX NAME)



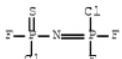
RN 24341-16-0 HCPLUS  
 CN Phosphorimidic trifluoride, (dichlorophosphinothioyl)- (8CI) (CA INDEX NAME)



RN 25518-96-1 HCPLUS  
 CN Phosphorimidic chloride difluoride, (difluorophosphinothioyl)- (8CI, 9CI) (CA INDEX NAME)



RN 25518-97-2 HCPLUS  
 CN Phosphorimidic chloride difluoride, (chlorofluorophosphinothioyl)- (8CI, 9CI) (CA INDEX NAME)

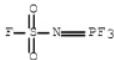


CC 78 (Inorganic Chemicals and Reactions)  
 IT 14809-09-7P 22341-49-7P 22341-50-0P,  
 Phosphorimidic trifluoride, (difluorophosphinothioyl)-  
 24341-15-9P 24341-16-0P 24341-19-3P  
 24341-20-6P 25518-84-7P 25518-85-8P 25518-86-9P 25518-89-2P  
 25518-90-5P 25518-91-6P 25518-92-7P 25518-96-1P  
 25518-97-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS  
 RECORD (3 CITINGS)

ACCESSION NUMBER: 1969:92790 HCAPLUS Full-text  
 DOCUMENT NUMBER: 70:92790  
 ORIGINAL REFERENCE NO.: 70:17351a,17354a  
 TITLE: Synthesis of trifluorophosphazido compounds  
 AUTHOR(S): Lustig, Max  
 CORPORATE SOURCE: Memphis State Univ., Memphis, TN, USA  
 SOURCE: Inorganic Chemistry (1969), 8(3), 443-5  
 CODEN: INOCAJ; ISSN: 0020-1669  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Trifluorophosphazosulfuryl fluoride, PF<sub>3</sub>:NSO<sub>2</sub>F, trifluorophosphazophosphoryl fluoride, PF<sub>3</sub>:NP(O)F<sub>2</sub>, and trifluorophosphazothiophosphoryl fluoride, PF<sub>3</sub>:NP(S)F<sub>2</sub>, are prepared by the reaction between PF<sub>3</sub>C<sub>12</sub> and FSO<sub>2</sub>NH<sub>2</sub>, F<sub>2</sub>P(O)NH<sub>2</sub>, and F<sub>2</sub>P(S)NH<sub>2</sub>, resp. Some properties of these new compds., including F<sub>2</sub>P(S)NH<sub>2</sub>, have been studied.  
 IT 22341-50-0P 22474-62-0P 22474-63-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 22341-50-0 HCAPLUS  
 CN Phosphorimidic trifluoride, (difluorophosphinothioyl)- (8CI, 9CI)  
 (CA INDEX NAME)



RN 22474-62-0 HCAPLUS  
 CN Sulfamoyl fluoride, N-(trifluorophosphoranylidene)- (CA INDEX NAME)

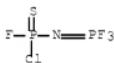


RN 22474-63-1 HCAPLUS  
 CN Phosphorimidic trifluoride, (difluorophosphinyl)- (8CI, 9CI) (CA INDEX NAME)



CC 78 (Inorganic Chemicals and Reactions)  
 IT 14809-12-2P 22341-50-0P 22474-62-0P  
 22474-63-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 38 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1969:83821 HCPLUS Full-text  
 DOCUMENT NUMBER: 70:83821  
 ORIGINAL REFERENCE NO.: 70:15663a,15666a  
 TITLE: Phosphorus compounds. XXVII. Preparation of trifluorophosphazo-thiophosphoryl chloride fluoride, trifluorophosphazothiophosphoryl difluoride, and thiophosphoryl amide bromide fluoride  
 AUTHOR(S): Roesky, Herbert W.; Grimm, L. F.  
 CORPORATE SOURCE: Univ. Goettingen, Goettingen, Fed. Rep. Ger.  
 SOURCE: Inorganic and Nuclear Chemistry Letters (1969), 5(1), 13-16  
 DOCUMENT TYPE: CODEN: INUCAF; ISSN: 0020-1650  
 LANGUAGE: Journal German  
 AB CIFP(:S)NH<sub>2</sub> or F<sub>2</sub>P(:S)NH<sub>2</sub> reacts with Cl<sub>2</sub>PF<sub>3</sub> at -20° in a 1:1 molar ratio to give CIFP(:S)N:PF<sub>3</sub>, b<sub>58</sub> 34°, and F<sub>2</sub>P(:S)N:PF<sub>3</sub> b<sub>242</sub> 31°, resp. S:PFBr<sub>2</sub> reacts with NH<sub>3</sub> in a 1:2 molar ratio at -80° in Et<sub>2</sub>O to form BrFP(:S)NH<sub>2</sub>, b<sub>0.03</sub> 39-40°. The compds. were characterized by N.M.R., ir, and mass spectra.  
 IT 22341-49-7P 22341-50-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 22341-49-7 HCPLUS  
 CN Phosphorimidic trifluoride, (chlorofluorophosphinothioyl)- (8CI)  
 (CA INDEX NAME)



RN 22341-50-0 HCPLUS  
 CN Phosphorimidic trifluoride, (difluorophosphinothioyl)- (8CI, 9CI)  
 (CA INDEX NAME)



CC 78 (Inorganic Chemicals and Reactions)  
 IT 14809-09-7P 22341-49-7P 22341-50-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 39 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1968:13094 HCPLUS Full-text  
 DOCUMENT NUMBER: 68:13094  
 ORIGINAL REFERENCE NO.: 68:2523a  
 TITLE: Characteristics of alkyl dichlorophosphazotrifluoracetyls and of their

AUTHOR(S): reaction products  
 Lysenko, V. V.; Ivin, S. Z.; Karavanov, K. V.;  
 Fedotova, V. V.

SOURCE: Zhurnal Obshchey Khimii (1967), 37(5),  
 1096-105

DOCUMENT TYPE: CODEN: ZOKHA4; ISSN: 0044-460X  
 Journal

LANGUAGE: Russian

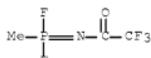
AB RPC12:NCOCF<sub>3</sub> (I) showed evidence of decreasing conjugation in the P:NC:O system with increasing electronegativity of R. I (R = CF<sub>3</sub>) kept in moist air 2 hrs. gave 99% CCl<sub>3</sub>P(O)(Cl)NHCOCF<sub>3</sub>, m. 105°. I (R = Et) in C<sub>6</sub>H<sub>6</sub> treated in the cold with 1 mole 100% HCO<sub>2</sub>H gave 50% EtP(O)(Cl)NHCOCF<sub>3</sub>, m. 45-6°; CO and HCl also formed. AcOH, finally at 40-50° 4 hrs., then in vacuo at 30°, similarly gave 77% same product, along with AcCl. I and 2 moles EtONa in EtOH at -5° gave the following RP(OEt)<sub>2</sub>:NCOCF<sub>3</sub> (R, % yield, b.p., d<sub>20</sub>, and n<sub>D</sub><sup>20</sup> given): Me, 33, b<sub>1</sub> 83-4°, 1.2310, 1.4022; Et, 24, b<sub>2</sub> 94-5°, 1.1820, 1.4020; iso-Pr, 25, b<sub>0.2</sub> 78-80°, 1.1512, 1.4050; MeEtCH<sub>2</sub> 48, b<sub>2</sub> 100-4°, 1.1345, 1.4078. The molar refractions of these were 0.5-0.6 units below the calculated when the group refraction for P:N was taken as 5.78. I and EtSNa in Et<sub>2</sub>O, finally at reflux, gave 18% EtP(Set)<sub>2</sub>:NCOCF<sub>3</sub>, b<sub>1</sub> 120-4°, 1.2702, 1.4949. I and EtOH in the presence of Et<sub>3</sub>N in Et<sub>2</sub>O gave after 1 hr. at room temperature 60% EtP(OEt)(Cl):NCOCF<sub>3</sub>, b<sub>1</sub> 78-84°, 1.3244, 1.4175, which retained some diethoxy analog after repeated distns. Similarly was prepared 49% EtP(Cl)(OCH<sub>2</sub>CHMe<sub>2</sub>):NCOCF<sub>3</sub>, b<sub>4</sub> 103-8°, 1.2308, 1.4210. I and 1 mole Et<sub>2</sub>NH in Et<sub>2</sub>O-Et<sub>3</sub>N in the cold gave 47% EtP(NEt<sub>2</sub>)(Cl):NCOCF<sub>3</sub>, b<sub>2-3</sub> 121-3°, 1.2522, 1.4459. I (R = Me) and SBF<sub>3</sub> (mixed slowly) gave 33.5% MePF<sub>2</sub>:NCOCF<sub>3</sub>, b<sub>1.5</sub> 37-9°, 1.5064, 1.3508; similarly was prepared 42% Et analog, b<sub>1.5</sub> 41-1.5°, 1.4509, 1.3576; and 23.7% iso-Pr analog, b<sub>1</sub> 38-42°, 1.3625, 1.3642. I (R = Me) heated to 180° decomposed to 65% MePOCl<sub>2</sub> and 55.5% CF<sub>3</sub>CN; similarly I (R = Et) gave 52% EtPOCl<sub>2</sub>, b. 175-6°, 1.3750, 1.4641, and 51% CF<sub>2</sub>CN. I (R = Et) (5.6 g.) added slowly at -50° to 3.1 g. AlCl<sub>3</sub>, then warmed to room temperature gave a grey mass, which heated to 60-70°, finally in vacuo 1 hr., gave 99% I (R = Et). AlCl<sub>3</sub> (Ia) complex, a viscous brown oil; a similar oily complex was formed with I (R = iso-Pr). The complex Ia and pyridine gave 77.5% I (R = Et). Dry HCl passed into EtP(OEt)<sub>2</sub>:NCOCF<sub>3</sub> at 10-15° (cooling) gave 56% CF<sub>3</sub>CONH<sub>2</sub>(O)Et(OEt), b<sub>0.5</sub> 105°, 1.3250, 1.4023. Addition of 7 g. EtP(NEt<sub>2</sub>)(Cl):NCOCF<sub>3</sub> to 0.57 g. Na dissolved in absolute EtOH gave after refluxing 1 hr. 69% EtP(OEt)(N<sub>Et</sub><sub>2</sub>):NCOCF<sub>3</sub>, b<sub>0.5-1</sub> 110-12°, 1.1405, 1.4623.

IT 17151-84-7P 17151-85-8P 17151-86-9P

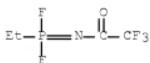
RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

RN 17151-84-7 HCPLUS

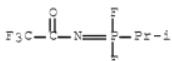
CN Phosphonimidic difluoride, P-methyl-N-(trifluoroacetyl)- (8CI) (CA INDEX NAME)



RN 17151-85-8 HCPLUS  
 CN Phosphonimidic difluoride, P-ethyl-N-(trifluoroacetyl)- (8CI) (CA INDEX NAME)



RN 17151-86-9 HCPLUS  
 CN Phosphonimidic difluoride, P-isopropyl-N-(trifluoroacetyl)- (8CI)  
 (CA INDEX NAME)



## CC 29 (Organometallic and Organometalloidal Compounds)

IT 16966-78-2P 17151-40-5P 17151-41-6P 17151-75-6P 17151-76-7P  
 17151-77-8P 17151-78-9P 17151-79-0P 17151-80-3P 17151-81-4P  
 17151-82-5P 17151-83-6P 17151-84-7P  
 17151-85-8P 17151-86-9P 17151-88-1P  
 17151-89-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 40 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1967:463859 HCPLUS Full-text  
 DOCUMENT NUMBER: 67:63859  
 ORIGINAL REFERENCE NO.: 67:11975a,11978a  
 TITLE: Preparation of alkyldiflurorphosphazocarbacyls  
 INVENTOR(S): Ivin, S. Z.; Karavanov, K. V.; Lysenko, V. V.  
 SOURCE: U.S.S.R. From: Izobret., Prom. Obraztsy,  
 Tovarnye Znaki 1966, 43(23), 17.  
 CODEN: URXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Russian  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

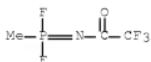
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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SU 188967		19661117	SU	

196509  
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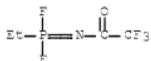
AB The title compds. are prepared from the reaction of  
 alkyldichlorophosphazocarbacyls with SbF<sub>3</sub> in vacuo.

IT 17151-84-7P 17151-85-8P 17151-86-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

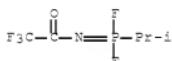
RN 17151-84-7 HCPLUS  
 CN Phosphonimidic difluoride, P-methyl-N-(trifluoroacetyl)- (8CI) (CA  
 INDEX NAME)



RN 17151-85-8 HCPLUS  
 CN Phosphonimidic difluoride, P-ethyl-N-(trifluoroacetyl)- (8CI) (CA INDEX NAME)



RN 17151-86-9 HCPLUS  
 CN Phosphonimidic difluoride, P-isopropyl-N-(trifluoroacetyl)- (8CI)  
 (CA INDEX NAME)



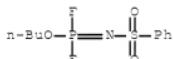
IC C07F  
 CC 23 (Aliphatic Compounds)  
 IT 17151-84-7P 17151-85-8P 17151-86-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L26 ANSWER 41 OF 42 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1965:497909 HCPLUS Full-text  
 DOCUMENT NUMBER: 63:97909  
 ORIGINAL REFERENCE NO.: 63:17949f-h,17950a  
 TITLE: Alkoxy- and aryloxydihalophosphazosulfonylaryls  
 AUTHOR(S): Ivanova, Zh. M.; Levchenko, E. S.; Kirsanov, A. V.  
 CORPORATE SOURCE: Inst. Org. Chem., Kiev  
 SOURCE: Zhurnal Obshchey Khimii (1965), 35(9),  
 1607-12  
 CODEN: ZOKHA4; ISSN: 0044-460X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 AB Treatment of 0.12 mol ROPCl<sub>2</sub> or ROPF<sub>2</sub> in C<sub>6</sub>H<sub>6</sub> at below 50° with 0.05 mol ArSO<sub>2</sub>NCl<sub>2</sub> gave after 1 h. 100% residual oily ArSO<sub>2</sub>N:PX<sub>2</sub>OR (Ar, R, and X shown) after removal of volatile products in vacuo; similar reaction with PhOPX<sub>2</sub> was run with ice cooling initially, then at 50–60° in vacuo: Ph, Me, Cl; Ph, Et, Cl; Ph, Pr, Cl; Ph, Pr, F; Ph, iso-Pr, Cl; Ph, Bu, Cl (Ia); Ph, Bu, F; Ph, Ph, F; Ph, Ph, Cl (I); p-MeC<sub>6</sub>H<sub>4</sub>, Pr, F; p-MeC<sub>6</sub>H<sub>4</sub>, iso-Pr, Cl. Exposed to moist air these gave ArSO<sub>2</sub>NH<sub>2</sub>. I and ice-cold aqueous K<sub>2</sub>CO<sub>3</sub> gave 44% PhSO<sub>2</sub>NHP(O)(OPh)Cl as K salt (at N), m. 174–6°. Similarly were prepared other ArSO<sub>2</sub>NKPOF(OR): Ph, Me, m. 202–5°; Ph, Bu, m. 152–4°; Ph, Ph, m. 131–3°; p-FC<sub>6</sub>H<sub>4</sub>, Me, m. 167–9°;

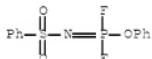
p-C1C6H4, Me, m. 201-3°; p-BrC6H4, Me, m. 216-17°; o-O2NC6H4, Me, m. 151-2°; m-O2NC6H4, Me, m. 206-8°; p-O2NC6H4, Me, m. 219-20°; p-MeC6H4, Me, m. 218-19°; 1-C1OH7, Me, m. 182-3°. Similarly were obtained PhSO2NKP(O)Cl2, m. 195-6°, and p-MeCH6H4SO2NKPOCl2, m. 208-10°, from ArSO2N:PCl2OCHMe2. I and saturated aqueous KF gave after extraction with cold MeOH PhSO2NKP(O)(OPh)Cl, which gave the aniline salt, C18H18ClN2O4PS, m. 112-14°. Ia and aqueous KHF gave PhSO2NH2.ArSO2NKPOF2 treated with 1 mol MeONa in dry MeOH gave in 1 h. at room temperature a precipitate of NaF while the filtrate gave ArSO2NKP(O)(OMe)F (II) shown above. Heating aqueous KF with 1-C1OH7SO2NPKCl3 5-10 min. at 50-60° gave 34% 1-C1OH7SO2NPKPOF2, m. 264-5°; similarly was prepared p-BrC6H4 analog, m. 269-70°. II and 1 mol MeONa in MeOH gave ArSO2NKP(O)Me2, which on acidification gave the free esters (Ph, m. 106-8°; o-O2NC6H4, m. 135-6°). PhSO2NKP(OF)2 and PhHNH2.HCl in aqueous solution gave 68% aniline salt C6H6F2NO3PS.C6H7N; similarly was prepared PhSO2NHP(O)(OMe)F.PhNH2, m. 109-11°.

IT 4140-38-9, Phosphorodifluoridimidic acid,  
(phenylsulfonyl)-, butyl ester 4140-39-0P,  
Phosphorodifluoridimidic acid, (phenylsulfonyl)-, phenyl ester  
4140-41-4P, Phosphorodifluoridimidic acid,  
(p-(tolylsulfonyl)-, propyl ester 4258-27-9P,  
Phosphorodifluoridimidic acid, (phenylsulfonyl)-, propyl ester  
RL: PREP (Preparation)  
(preparation of)

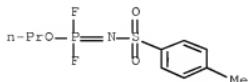
RN 4140-38-9 HCAPLUS  
CN Phosphorodifluoridimidic acid, N-(phenylsulfonyl)-, butyl ester (CA INDEX NAME)



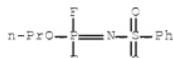
RN 4140-39-0 HCAPLUS  
CN Phosphorodifluoridimidic acid, N-(phenylsulfonyl)-, phenyl ester  
(CA INDEX NAME)



RN 4140-41-4 HCAPLUS  
CN Phosphorodifluoridimidic acid, N-[(4-methylphenyl)sulfonyl]-, propyl ester (CA INDEX NAME)



RN 4258-27-9 HCPLUS

CN Phosphorodifluoridimidic acid, N-(phenylsulfonyl)-, propyl ester  
(CA INDEX NAME)

CC 35 (Noncondensed Aromatic Compounds)

IT 4140-34-5P, Phosphoramidic acid, [(o-nitrophenyl)sulfonyl]-, dimethyl ester 4140-35-6P, Aniline, compound with Me (phenylsulfonyl)phosphoramidofluoridate (1:1) 4140-36-7P, Aniline, compound with (phenylsulfonyl)phosphoramidic difluoride (1:1) 4140-37-8P, Phosphorodichloridimidic acid, (phenylsulfonyl)-, butyl ester 4140-38-9P, Phosphorodifluoridimidic acid, (phenylsulfonyl)-, butyl ester 4140-39-0P, Phosphorodifluoridimidic acid, (phenylsulfonyl)-, phenyl ester 4140-40-3P, Phosphorodichloridimidic acid, (phenylsulfonyl)-, phenyl ester 4140-41-4P, Phosphorodifluoridimidic acid, (p-tolylsulfonyl)-, propyl ester 4140-42-5P, Potassium, [N-(chlorophenoxyphosphinyl)benzenesulfonamido]- 4140-43-6P, Potassium, [N-(fluoromethoxyphosphinyl)benzenesulfonamido]- 4140-44-7P, Potassium, [N-(butoxyfluorophosphinyl)benzenesulfonamido]- 4140-45-8P, Potassium, [N-(fluorophenoxyphosphinyl)benzenesulfonamido]- 4140-46-9P, Potassium, [p-chloro-N-(fluoromethoxyphosphinyl)benzenesulfonamido]- 4140-47-0P, Potassium, [p-bromo-N-(fluoromethoxyphosphinyl)benzenesulfonamido]- 4140-48-1P, Potassium, [N-(fluoromethoxyphosphinyl)-o-nitrobenzenesulfonamido]- 4140-49-2P, Potassium, [N-(fluoromethoxyphosphinyl)-p-nitrobenzenesulfonamido]- 4140-50-5P, Potassium, [N-(fluoromethoxyphosphinyl)-p-toluenesulfonamido]- 4140-51-6P, Potassium, [N-(fluoromethoxyphosphinyl)-1-naphthalenesulfonamido]- 4140-52-7P, Potassium, [N-(dichlorophosphinyl)benzenesulfonamido]- 4140-53-8P, Aniline, compound with Ph (phenylsulfonyl)phosphoramidochloridate (1:1) 4140-54-9P, Potassium, [N-(difluorophosphinyl)-1-naphthalenesulfonamido]- 4140-55-0P, Potassium, [p-bromo-N-(difluorophosphinyl)benzenesulfonamido]- 4140-56-1P, Phosphoramidic acid, (phenylsulfonyl)-, dimethyl ester 4232-96-6P, Phosphorodichloridimidic acid, (phenylsulfonyl)-, isopropyl ester 4232-97-7P, Phosphorodichloridimidic acid, (p-tolylsulfonyl)-, isopropyl ester 4232-98-8P, Potassium, [N-(fluoromethoxyphosphinyl)-m-nitrobenzenesulfonamido]- 4247-66-9P, Potassium, [N-(dichlorophosphinyl)-p-toluenesulfonamido]- 4258-24-6P, Phosphorodichloridimidic acid, (phenylsulfonyl)-, methyl ester 4258-25-7P, Phosphorodichloridimidic acid, (phenylsulfonyl)-, ethyl ester 4258-26-8P, Phosphorodichloridimidic acid, (phenylsulfonyl)-, propyl ester 4258-27-9P, Phosphorodifluoridimidic acid, (phenylsulfonyl)-, propyl ester 4263-51-8P, Potassium, [p-fluoro-N-(fluoromethoxyphosphinyl)benzenesulfonamido]-

RL: PREP (Preparation)  
(preparation of)

L26 ANSWER 42 OF 42 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1965:446279 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 63:46279  
 ORIGINAL REFERENCE NO.: 63:8373e-h  
 TITLE: Fungicidal compositions  
 INVENTOR(S): Lambie, Alan J.; Lane, David W. J.; Saggers, David T.  
 PATENT ASSIGNEE(S): Fisons Pest Control Ltd.  
 SOURCE: 15 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Unavailable  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

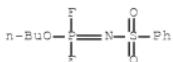
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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GB 990111		19650428	GB 1960-16222	196005 07 <--
PRIORITY APPLN. INFO.:	GB			196005 07 <--
	GB			196009 29 <--

GI For diagram(s), see printed CA Issue.  
 AB The fungicidal composition contains as active ingredient a benzotriazole (I), or the reaction product of maleic acid or anhydride with benzotriazole. Other fungicidal substances such as S, Cu, Ni, or other fungicides may be added. Both as an emulsion and a fine suspension the composition inhibits the growth of parasitic and saprophytic fungi. These compds. are phytotoxic. Thus,  $\beta$ -[2-(4,5,6,7-tetrachlorobenzotriazolyl)]-butyric acid was treated with excess CH<sub>2</sub>N<sub>2</sub> to give the Me ester, m. 85-6°. ClCH<sub>2</sub>CONEt<sub>2</sub> 14.9, 4,5,6,7-tetrachlorobenzotriazole Na salt (II) 31.5, and Me<sub>2</sub>CO 200 was refluxed 1 hr. to give I (R = R<sub>1</sub> = R<sub>3</sub> = Cl) (III) (R<sub>4</sub> = CH<sub>2</sub>CONEt<sub>2</sub>) 21.5 parts, m. 186-8°. II and ClCO<sub>2</sub>Et gave similarly III (R<sub>4</sub> = CO<sub>2</sub>Et), m. 156-9°. Similarly were prepared the following III (R<sub>4</sub> and m.p. given): CH<sub>2</sub>OMe, 109-10°; Me<sub>2</sub>NCO, 163-4°; MeNHO-CH<sub>2</sub>, 268-9°; morpholinocarbonylmethyl, 262-4°; 1-benzotriazolylmethyl, 197-8°; CH<sub>2</sub>CONH<sub>2</sub>, 278-9°; MeO<sub>2</sub>CH<sub>2</sub>, 125-7°. III (R<sub>4</sub> = H) 16.4 and maleic acid 7 in C<sub>5</sub>H<sub>5</sub>N 45 was heated on a steam bath 10 hrs., treated with Me<sub>2</sub>CO 15 parts, cooled, and poured into excess dilute HCl, and the precipitate collected, washed with H<sub>2</sub>O, and crystallized from aqueous AcOH to give the reaction product, m. 172°. 5,6-Diamino-1,2,4-trichlorobenzene 11 in AcOH 120 was treated dropwise at 0-5° with NaNO<sub>2</sub> 5.5 in H<sub>2</sub>O 10 to give 4,5,7-trichlorobenzotriazole 6.1 parts, m. 220-2°; similarly prepared was 4,5,6-trichlorobenzotriazole, m. 279-80°. 5-Methoxybenzotriazole 5 in EtOAc 250 was treated with excess Cl to give the 6-chloro derivative 2.7 parts, m. 206-8°. The tautomerism of I shown occurs only when R<sub>4</sub> is H. In other cases 2 isomers are possible and were not always identified.

IT 4140-38-9, Phosphorodifluoridimidic acid,  
 (phenylsulfonyl)-, butyl ester

RL: PREP (Preparation)  
 (preparation of)

RN 4140-38-9 HCAPLUS  
 CN Phosphorodifluoridimidic acid, N-(phenylsulfonyl)-, butyl ester (CA  
 INDEX NAME)



IC A01N009-20

CC 38 (Heterocyclic Compounds (More Than One Hetero Atom))

IT 4140-37-8P, Phosphorodichloridimidic acid, (phenylsulfonyl)-, butyl ester 4140-38-9P, Phosphorodifluoridimidic acid, (phenylsulfonyl)-, butyl ester 4144-42-7P, Benzotriazole, 4,5,7-trichloro- 4144-43-8P, Benzotriazole, 4,5,6-trichloro- 5560-05-4P, Benzotriazole, 5-chloro-6-methoxy- 92475-52-0P, Benzotriazoleacetic acid, 4,5,6,7-tetrachloro-, methyl ester 93063-98-0P, Benzotriazoleacetamide, 4,5,6,7-tetrachloro- 93112-12-0P, Benzotriazoleacetamide, 4,5,6,7-tetrachloro-N-methyl- 95373-17-4P, Morpholine, 4-[(4,5,6,7-tetrachlorobenzotriazolyl)acetyl]- 95845-58-2P, 1H-Benzotriazole, 1-(benzotriazolylmethyl)-4,5,6,7-tetrachloro-

RL: PREP (Preparation)  
(preparation of)

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